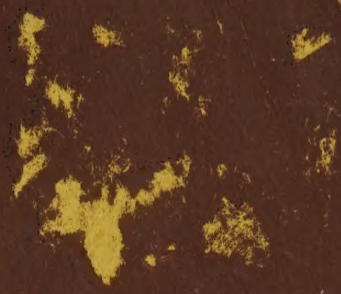

Successful Ways

HOW TO SAVE TIME, SAVE MONEY, AND MAKE PROFITS IN FARMING AND HOME-MAKING!

SUCCESSFUL FARMING

Successful Ways

How to save time, save money, and make profits in farming and home-making

Published By

SUCCESSFUL FARMING

Des Moines, Iowa

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EDITOR'S NOTE

"If you have some clever, original device for lightening the farm or home work, saving time, advertising or selling the products of the farm, or improving home surroundings, tell us about it. Give all necessary details, but be brief. Send picture or drawing if possible. For each idea published we will pay $2. It is impossible to return unused suggestions."

THIS announcement appears on the "All Around the Farm" page of *Successful Farming*. Our readers respond by sending us many new ideas which they have found to be successful, and now the department is one of the most popular of the magazine.

Many of the ideas contained in the booklet were copied from recent issues of *Successful Farming* and selected from more than 125,000 suggestions sent in by our subscribers. At $2 each, *Successful Farming* has paid more than $1,000.00 for these ideas. We present them, together with other valuable editorial material from *Successful Farming*, and *Successful Farming's* subscribers' Information Bureau, here in a form suitable for ready reference and hope that they will be of great value to you. Try them yourself. They have "proven" their usefulness to others!

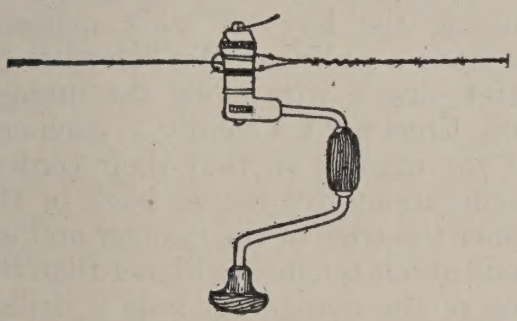
The Editors

ALL AROUND THE

FARM

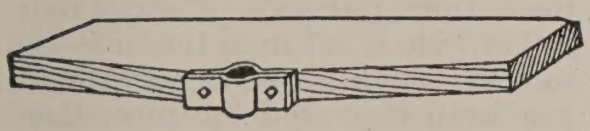
Helpful Hints for Men

To Mend Wire. Make a loop in one end of the broken wire and fit beside the chuck of an ordinary brace. Next tie a piece of smooth wire to the other end of the broken wire, running the other end of the smooth wire thru the loop and fastening it in



the chuck of the brace. Then wind the brace so that the smooth wire winds up on the center of the chuck. When the wire is tight enough, unwind the brace and fasten, being careful not to lose any slack. You can make your broken wire tight as new.—G. M., Kansas.

Stronger Doubletree. A doubletree can be made stronger with only a little more work and expense. Instead of boring a hole thru the center of it as is usually done two pieces

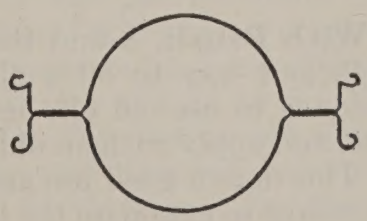


of iron are shaped in a forge to carry the draw pin, as is shown in the drawing. This arrangement saves the wear which would take place in a hole bored into the wood and the entire width of the doubletree withstands the pull. A notch is cut to fit the iron and they are fastened on with lag screws.—H. E., Illinois.

Avoid Rust. One of the greatest enemies of the life of machinery is rust, which often attacks machinery that is as safely housed as the farmer himself. One of the best methods is to coat the articles with a rust-repelling mixture.

A rust-proof paint which I have found to resist all atmospheric changes is composed of 5 pounds of tallow and 1 pound of turpentine melted together. Melt separately 18 ounces of sulphur, 5⅓ ounces of caustic potash, and 1 ounce of copper filings. Mix this with the tallow and turpentine while hot, and apply with a brush, just as you would paint. —E. W.

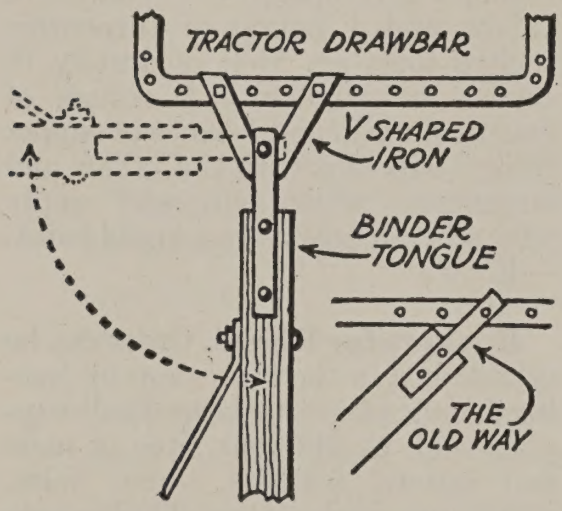
Buckets for Rivets. Order can be established in the farm shop by having handy places to keep small supplies such as different sizes of nails and screws, washers, stove bolts, rivets, and similar items. The buckets from an old elevator belt when nailed or screwed to the wall in an orderly fashion are just the thing. The name of each article can be painted on the bucket as a further help in maintaining order.—D. M., Illinois.



A Handy Strainer. A strainer over the separator tank is often

desirable. I made a holder by looping a circle one inch less in diameter than the top of the strainer. Then on opposite sides I twisted the wires to reach the edges of the tank. In order to keep the strainer from tipping over I spread the ends of the wires at right angles to each end for a few inches, making two hooks on each side to clamp over the edges of the tank.—R. W., Illinois.

To Hook Up Binder. A simple attachment to the tractor drawbar for hooking up the binder has eliminated split binder tongues for us. Attaching directly to the drawbar as shown under "the old way" resulted in a split tongue if a square turn is made at the corners. The V-



shaped piece makes possible a sharp, right-angled turn and a neater job of cutting the field as well as preventing delays which a broken tongue would cause. The attachment is made of iron a little lighter than used in the drawbar.—K. W., Iowa.

Oil With Brush. I find that the most efficient way to oil a plow or cultivator is to use old oil, heavy if possible, and apply with an old paint brush. This does a good job and it is not necessary to get oil on the hands, either. This system is especially good in oiling the sickle on the mower. It is about the easiest way to oil the springs on a car for which a light oil should be used, separator oil preferred.—A. T. L., Iowa.

To Unroll Wire. The common method of unrolling barbed wire by putting an iron bar thru the spool can be greatly improved upon. Drill a hole thru this bar about one inch out from the edge of the spool; put discarded discs from a disc harrow over the rod, concave side out; put bolts thru the holes to hold the disc on and it will be much more convenient to handle.—R. A., Iowa.

To Hold Hay. Keeping cows from tossing the hay off their mangers is often a problem. We solved it by stretching a wire along the manger top. Erect a 2 x 4 solidly at each end of the manger so that their centers come about five inches back of the inner top edge of the manger and extend about ten inches higher than the top of the manger. A hole is drilled in each one about three inches from the top and eyebolts inserted. A No. 9 wire is stretched between them. The wire is connected with a coil spring to the eyebolt at one end which keeps the wire tight but allows it to give if bumped or hooked by a cow. Slack can be taken up by tightening the bolts. This wire effectively stops the hay tossed up by the cows.—F. G. S., Minnesota.

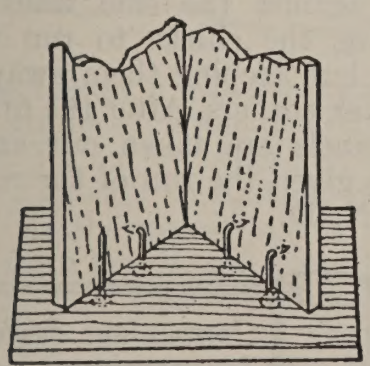
How to Mend Pipes. I have found that old inner tubes provide a quick and simple method of mending frozen water pipes without removing them from the wall. A strip four inches wide is cut from the tube. Be sure to stretch the rubber a little as you wrap it around the pipe, then tie it good and tight with binder twine.—C. S., North Dakota.

How to Avoid Moss. Moss is kept out of our water tanks thru the use of copperas in the water. I find that a nickel's worth will last all summer.—F. W., Kansas.

Handy Grain Scoop. A discarded flour sifter proved to be just the thing for converting into a hand grain scoop. All the fixing it needed was the removal of the revolving sifter part. It holds just a quart which makes it convenient in measuring the right amount of feed for each cow.—G. R., Michigan.

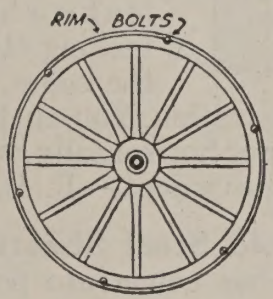
How to Open Sack. How often when in a hurry to open a sack, one turns and twists, first one end and then the other, in an effort to get the chain stitch unlocked. If you will remember to place the sack at right angles to you, the single stitching at your left, then begin unraveling the end next you, you will find it an easy job. I make use of all the empty sacks and knowing how to open them gives me better material to use when one considers the great numbers of sacks which come to most farmers every year.—L. T. R.

How to Hold Troughs. Here is a way to secure the ends of hog troughs so they will stay in place. In addition to the nails ordinarily used to fasten the end pieces drive some long nails thru the end pieces so as to miss the ends of the trough to project on

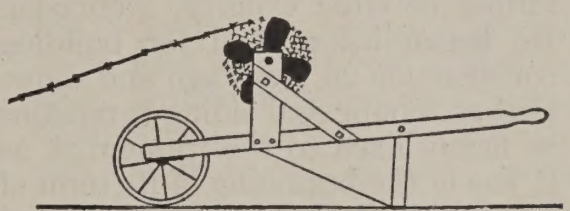


inside. Then take pliers and bend a right-angled nook on each nail as seen in the illustration and drive them in the wood. Do the same thing on the underside.—P. E. B., Iowa.

To Hold Rim. Bore a hole between two spokes and as close to the rim as possible. Skip two spokes and bore another hole, and so on, until you get all the way around. In each hole put a round-headed bolt the same size of the hole and put a washer on both ends of the bolt. This hooks over the rim, keeping it in place. The bolts should be long enough so they can be riveted after the nut is tightened. Six bolts to a wheel is plenty.—J. V. A., Iowa.



A One-Man Device. When one man attempts to unroll a roll of barbed wire down a long stretch of fence he has a very disagreeable job on his hands. Take an old wheelbarrow and place two uprights, each about a foot high, near the front.



Bore holes in these uprights at the top thru which a shaft carrying a roll of barbed wire is to be placed. Then nail the two braces fast, nail a box to the inside of one of the two barrow handles, and the machine is ready to build a fence.—A. C., Pennsylvania.

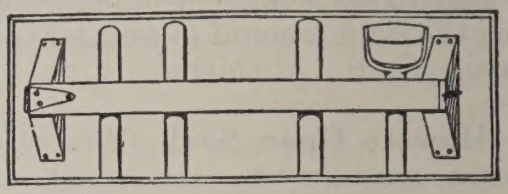
Movable Mail Box. A movable mail box has proved useful to us. Very often the mailman must make detours on account of snowdrifts and with this type of box we can always favor him. We took an old 10-gallon milk can and punched holes in the bottom for drainage. The mail box post was then set in the can and the can filled with small stones.—A. B. C., Minnesota.

Corn Knife Holder. It is difficult to find a place for the corn knife where it will be most convenient and handy. Hung on a nail it is hard to take off when placed high enough to be out of the reach of curious and daring little folks. Take an old inner tube of an automobile tire and make sheath by tacking strips along the edges, as shown in the illustration. You can put this up vertically or horizontally, wherever it will be convenient.—F. B., Iowa.

To Hold Steel Sheeting. Steel sheeting has come into popular use in many sections of the country as roofing and siding for farm buildings, but occasionally some dissatisfaction is expressed because of the loosening of the nails with which the sheeting was applied. However, the fault is not in the material but with the workmanship, says Henry Bock, a farmer of Otoe County, Nebraska. He began using steel for building construction 20 years ago and shows that as roofing and siding it remains as firmly fixed to the framework as it was in the beginning of its term of service. Bock has a machine shed 20 years old and a granary 14 years old, both roofed and sided with steel, and a barn roofed with the material.

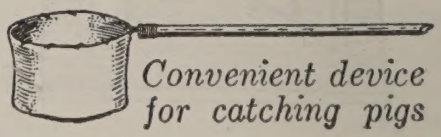
Bock used 1-inch nailing pieces and sixpenny nails whereas a good many others make the mistake of driving larger nails into timber so thick that there is no chance for clinching them, a process that should be considered a necessity. Bock's sixpenny nails were used plentifully, and after the steel was applied with them he did a thoro job inside the building by clinching the nail points against the wood. Thereby the metal remains as tight as if it were attached by bolting, and the joints between the sheets are barely noticeable. He has used both corrugated and brick-print sheeting. —G. R. H., Iowa.

Handy Implement Rack. Attach two short 2 x 4-inch blocks to the wall of the farm shop. They should be set about two feet apart. Then hinge a 1 x 4-inch board to one of the 2 x 4 blocks and fasten to the



other with a hook. This makes a convenient place to stand the shovels, spading forks, and pitchforks where there is no danger of their being knocked down or trampled on by the livestock.—W. W., Minnesota.

Saves Baby Chicks. Panels may be made during winter days to keep the baby chicks from wandering from the heat until they are old enough to run to the hover when they become chilly. Chilling causes digestive trouble and brings on a train of chick disaster. We use five of the panels, but more would be needed for a large stove. For the first two days these panels entirely surround the stove. On the third day one wire hinge is removed and the ends are swung back against the side walls, thus allowing the chicks to run to the front, but keeping them away from the back corners. After the fifth day the panels are taken out and the chicks given the run of the room.—Mrs. N. D.

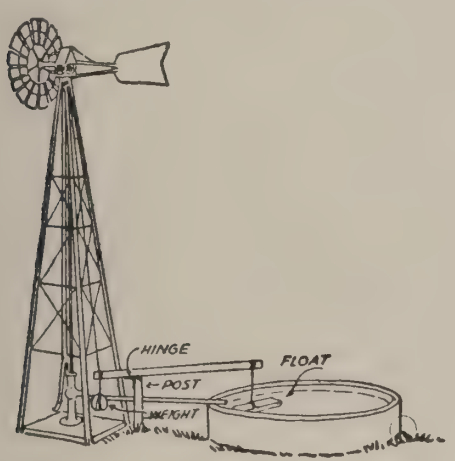


Convenient device for catching pigs

How to Catch Pigs. Above is a device of my own origin I have found very convenient for taking pigs away from a cross sow. Take a piece of heavy wire about 4½ feet long. Shape it as tho making a frame for a fishing dip net. Drive the shanks of this into a strong light handle about 6 feet long. Cut a common gunny

sack in two and sew it with twine onto the hoop so it will be about like a dip net, only deeper. With this device you can reach across a fence, put the sack over a pig, give a quick pull toward you which will throw the pig off his feet and land him in the sack. You can take the pig away from the crossest of sows, as the pig will lie quietly in the sack until you take hold of him.—A. W. A.

Regulating Windmill. To plan your own regulator for shutting off your windmill when the tank is full, place the tank quite close. Set a post between the tank and the windmill; put a 4 x 4 over the post, fastening it with a hinge about one-third of the length to the windmill with the longer end toward the tank.



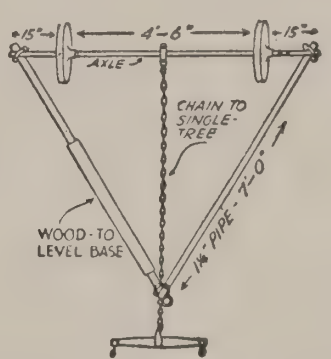
Then fasten a wooden block as a float to the 4 x 4 and drop it into the tank. Tie on the other end a weight heavy enough to shut off the windmill. As the water rises in the tank the float lowers the weight at the other end. Then as tank is being emptied, the block in the tank is heavy enough to handle the other one, thus turning the windmill on again.—A. M. J., Nebraska.

Uses Old Chains. When my self-feeder started to clog, I fastened old chains inside of it where the hogs could jerk them. I no longer have any trouble.—J. M. B., Ohio.

How to Thin Oil. Those having to operate a gas engine out-of-doors in the winter know how difficult it is to get the lubricating oil to drop right. In the coldest weather one is often obliged to use a thinner oil than is best for the engines. I have a plan that will oil your engines in the coldest weather and you can use the heaviest oil you can get. Take a half-inch pipe long enough to reach from the exhaust to the glass oiler. Have an elbow at each end. Hook one into the exhaust pipe, and the other end pointing at oiler. Fasten the pipe at both ends securely with "U" bolts and clamp at end. The idea is to puff hot air from the exhaust to the oil cup. In less than a minute your heavy oil will drop nicely.—W. J. K., Wisconsin.

To prevent Frost. We prevent frost from gathering on our windshield in this manner: A thin coat of glycerine is applied to both sides of the glass. This prevents the formation of moisture.—V. C. R., Kansas.

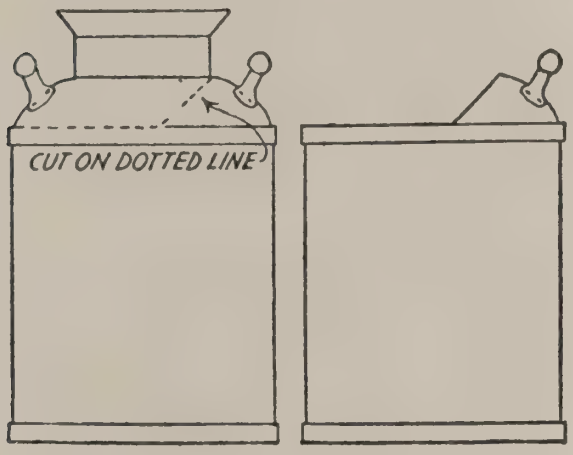
How to Move Hoghouse. Moving a colony of A-type hoghouses from place to place with a sled and team is quite a chore, and dragging them is quite destructive. With this cart one horse will handle a house, and it is possible to turn in a much smaller space. To load, use a block and pry to loosen the houses, as the sills are commonly banked with dirt.



By lifting the house two feet high the cart slips under easily. This is for a 6 x 7 A-house. Take two old sweep wheels and an axle 7 feet long. Place the wheels 4 feet 6 inches apart, measure from outside of rim, leaving

hubs extend 15 inches. Take 2 pieces of 1¼-inch pipe 7 feet long, screw elbow on lower pipe to form a runner. Wire or bolt a piece of wood to the lower pipe to make a level base for sill. This makes a triangular base with the wheels running inside of the house and pig guards acting as fenders.—L. C., Nebraska.

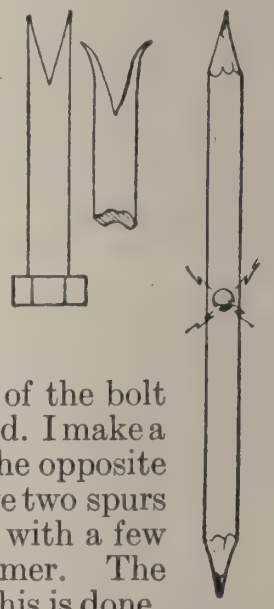
Patching Made Easy. Who likes to patch grain sacks? Here is our easy way: With flour and cold water stir a thick, smooth paste. Turn the sack wrong side out, smear the patch with paste, and place it over the hole in the sack. Then press the patch with a hot iron until dry.—Mrs. J. W. J., Nebraska.



Handy Containers. The accompanying sketch will give you an idea of how I make useful equipment from worn out milk cans. After cutting off the tops, as indicated by the dotted lines, the edges are bent in so as not to be dangerous. These cans are handy for carrying feed for other duties about the farm buildings.—W. Q., Minnesota.

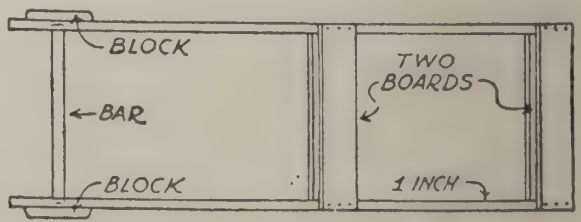
How to Remove Paint. Never apply paint or varnish over old checked or peeling paint. We remove such paint with five parts of waterglass, one part of soda lye, and one part of ammonia. When dry, the paint and varnish may be rubbed off. Should some of it stick make another application of the mixture.—J. E. Z., Wisconsin.

Handy Bolt. The man who operates a good deal of machinery frequently needs a bolt or a pin for various repairs. It is often difficult to find one of the right length, or with a key hole to keep it in place. With a hack saw cut the bolt the desired length at an angle to the center of the bolt and toward the head. I make a similar cut from the opposite side which will leave two spurs that may be bent with a few taps of the hammer. The sketchs how show this is done. The bolt is easily removed when necessary.—F. E., Iowa.



How to Tie Calves. We have discovered a novel way to prevent calves from twisting their ropes when tied out to pasture. A stake is driven in the ground and an old automobile tire is thrown over the stake. The halter rope is then tied to the tire and will not become twisted.—E.L. M., Ohio.

To Unroll Wire. The various suggestions for unrolling barbed wire have been interesting to me. I am suggesting a device which I find takes little space in the wagon when I go to fix fence. It is also easily handled thru trees and over rough ground. The sketch will give you a good idea of how to make this simple piece of equipment.



I take two boards four or five feet long, three inches wide, and one inch

thick. Place these boards about 1½ feet apart and nail pieces of inch board to the edges, as shown in the sketch. Holes are bored in the lower end of these side pieces and an old broomstick cut to fit. The spool of wire rolls on this broomstick.—L. F. S., Iowa.

Chicken Saver. Chickens will insist upon drowning in large tanks. We stopped this trouble by placing a small board afloat in our tank. The chickens climb on this board and are able to save themselves.—G. H. S., Jr., Wisconsin.

Protect Handsaws. I protect my handsaws with an old piece of garden hose. The hose is cut the length of each saw and then slit along one side. This fits smoothly over the teeth of the saws while they are being carried about with other tools.—R. E. M., Missouri.

A Danger Warning. This is a simple sounding precaution but I give it credit for saving me some serious accidents. A small bit of red cloth is attached to the steering wheel of my car. When I become accustomed to it I move it to another place. It is a constant reminder to drive carefully.—L. E. H., Minnesota.

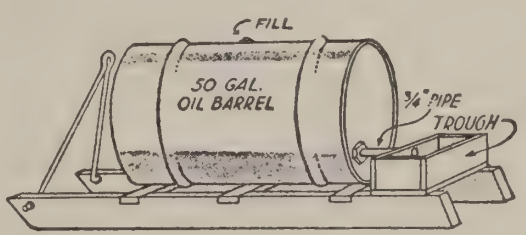
To Cut Roofing. Sometimes it is difficult to cut tarred roofing because it will stick to the knife blade. I find that by frequently dipping the blade into a small can of kerosene this trouble is prevented.—H. V., Wisconsin.

To Mend Tank. After numerous leaks develop in the bottom of my water tank I find cement will save it. The tank is carefully cleaned and about one-half inch of cement is applied to the bottom. Use washed sand because it makes a smoother surface.—F. T., Minnesota.

To Tighten Screws. When I have a piece of equipment in which the screws will no longer hold I use this method: Remove the screw and in its place drive a small wooden peg firmly and yet not tight enough to split the material. Then replace the screw and it will hold.—Mrs. D. J. K., Iowa.

A Knee Pad. Those who must spend considerable time on their knees planting strawberries or in doing similar work will find my plan helpful. To keep my knees dry and comfortable I prepare a knee pad cut from a strip of inner tubing. By a little experimenting you can determine just how long you will need to make this pad. Bands are left at each end thru which to slip the leg. These hold the pad in place.—H. F., Ohio.

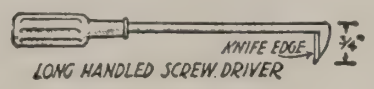
Watering Hogs. The problem of watering hogs on pasture has led me to prepare a fountain which is shown in the sketch. I bored a hole in a trough,



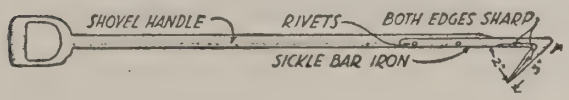
one inch from the top. To this hole I connected a ¾-inch pipe which screws into the plug of an old oil barrel. The outfit is mounted on skids, so that I can haul it directly to the well to fill it. It is then easily dragged to the hog lots.—C. W., South Dakota.

Oil Removes Tar. Road tar spattered on the automobile is enough to discourage anyone. We have found a way to remove it without scratching the enamel. First saturate the spots with linseed oil. After the oil has stood a few minutes carefully remove it with a piece of cheesecloth. The tar then disappears. —W. L. H., Pennsylvania.

A Handy Tool. For years I have broken knife blades and skinned my hands trying to remove straw, hay, and binder twine from the beater of my manure spreader. Last spring my blacksmith made the tool shown in the sketch. An old long-

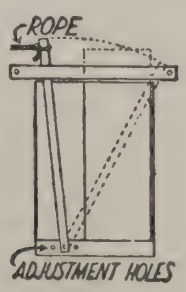


handled screw driver was fitted for the purpose. I find it very convenient. At the same time he made a similar tool which I use to remove large weeds from the hills of corn.—O. C. K., South Dakota.



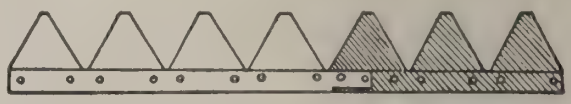
To Stop Horse Kicking. Obtain a rope about seven or eight feet long. Fasten one end to the halter ring, pass the other end thru a hole in the manger—without tying to the manger. Tie the other end to the horse's foot just below the fetlock, leaving ample room for the horse to lie down. This is effective and will not hurt him in any way.—H. S. T., Iowa.

Ringing Heavy Hogs. Here is a handy device for ringing heavy hogs. Bolt an iron bar or an angle iron to the bottom of the hog house, as shown in the diagram. Fix a guard at the top for the bar so that it can slide back and forth. This guard will also keep the bar from being pushed away when a hog is caught.



Also nail a temporary board on the inside of the doorway, just leaving room for the hog to pass between the bar and side of the doorway. Fasten a rope to the top of the bar and when a hog starts to go thru, pull the rope and catch the hog between the head and the shoulders. One man may easily ring a 300-pound hog by this very simple method.—R. A. M., Iowa.

How to Mend Sickle. Mower sickles usually break at the head. Such breaks may be quickly repaired in the farm shop without welding. The reriveting of the head to the shortened sickle places the cutting strain on a new place in the sickle.

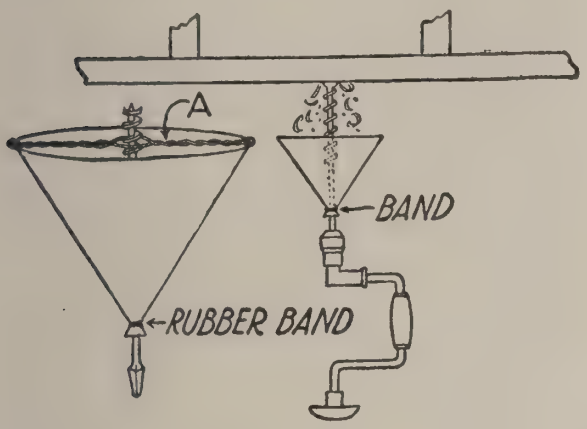


A short piece of sickle the proper length may be spliced to the outer end as shown. A hack-saw, a hammer, and a drill press are the only tools required. This repair will often save a trip to town during the busy haying season.—S. R., Kansas.

To Lift Broken Screw. When I am unfortunate enough to break a screw in hardwood, I remove it by drilling a small hole beside the broken section and in line with the grain of the wood. A punch is then used to drive the screw into the hole, so that it can be lifted out. The hole is then filled with a wooden plug and a new screw inserted.—B. S., Ohio.

To Keep Tools Clean. In order to keep tools, such as hoes, shovels, and spades from becoming rusty, it is necessary to clean and dry them and then oil. An old milk can with the top cut out above the handles and filled half full or more with old crank case oil, is a convenient way to keep such tools oiled to prevent rust. After proper cleaning, immerse the tool in the oil, then remove, permitting it to drain for a moment, after which it may be put in its proper place. This eliminates the use of an oily rag.—P. O. W., Illinois.

Boring Ceiling Holes. Boring holes in the ceiling of any building is a dirty job. The dust falls over you, and also makes dirt in the house to be cleaned up. This can be remedied by the use of a conical dirt catcher,



which can easily be made of stiff cardboard. It should be provided with a guide as shown in the illustration. At the lower end B it is fastened with a rubber band around the shank. This you will find very useful in boring holes overhead.—F. F. N., Pennsylvania.

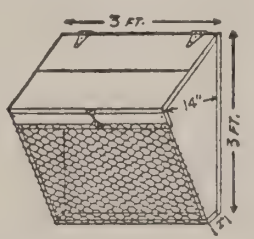
Old Nail Containers. A few tin cans may be quite useful around the farm as containers for old nails. With a pair of tin shears cut away the front of the can so that the back of it can be conveniently nailed to a wall. They make very handy receptacles for nails, screws, and bolts which often cause trouble when left around. Nail up enough of these cans around the buildings so that one is always handy when there is such material to be disposed of.—H. S., Wisconsin.

Protect Your Pigs. This is an old suggestion but one which many people have never tried. To prevent the sow from lying on her pigs, spike 2 x 4's clear around the wall and at least 10 or 12 inches from the floor. Nail them flatwise, so that when the mother lies down, the pigs can slide under this guard rail and avoid being crushed. Make sure that this space is not completely filled at any time with straw and litter.—L. V. D. P., Wisconsin.

Moisture-Proof Guncase. A moisture-proof guncase is easily made from an old inner tube. I cut a section of tube long enough to completely protect the gun and if the tube fits the stock snugly, it will not be necessary to tie more than one end.—I. J., Illinois.

To Keep Paint. To prevent paint from hardening after part of a can has been used, I melt paraffin and pour it over the surface. You will be pleased with the results.—Mrs. C. A., Michigan.

A Good Feed Rack. To feed silage and other green feed to poultry use a feed rack attached about four inches above the floor. The sides should be of boards and the top

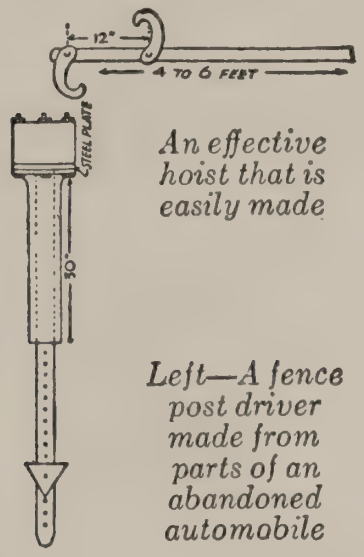


should be a door of the same material. Cover the front with half-inch mesh chicken wire as shown in the illustration. The feed will keep clean and there will be no waste.—J. R. D., Ohio.

Harness Rack. For a revolving harness rack, nail one 2 x 4 to the ceiling and another to the floor directly beneath it. Drill one-inch holes in each of the 2 x 4's, making the one in the upper 2 x 4 exactly above the other. Take a 4 x 4 just a few inches shorter than the height of the room and drill one-inch holes in each end. Fasten the 4 x 4 in place with one-inch pipes long enough to hold it securely both above and below. Drill holes at an upward angle in the 4 x 4 to accommodate as many pegs as may be desired for hanging harness.—F. F., Ohio.

How to Destroy Lice. A few banana stems hung in the poultry house will attract lice and prove an aid in eradicating them. They will attract ants in places where they become bothersome.—A. B. P., Michigan.

Make Your Own Hoist. An effective hoist can be made by using an iron bar of the length desired. Drill two holes in it at intervals of about 12 inches and attach two big hooks as shown in the following illustration.—L. K. B., Nebraska.



An effective hoist that is easily made

Left—A fence post driver made from parts of an abandoned automobile

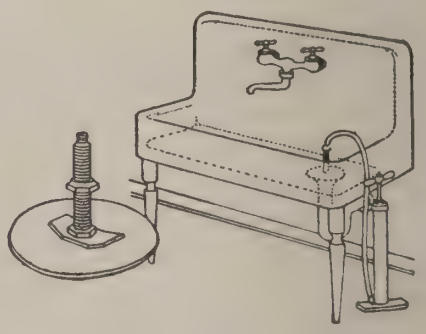
How to Make Post Driver. A fence post driver can be made of parts from an abandoned automobile. Use the drive shaft housing for weight. Bolt on the steel plate between the housing and the bearings for a cap and attach the flange from the end of the crank shaft as shown in the above illustration. Slip over the top of the post and pump up and down to drive the post into the ground.—G. W. M., South Dakota.

To Keep Windshield Clear. To prevent rain from adhering to the windshield and blinding the automobile driver, wipe the windshield with a clean newspaper. The rain drops will flatten out in a sheet and will not seriously impair the vision of the driver.—H. C. M., Ohio.

A Strawberry Trimmer. To eliminate the back-breaking work of cutting strawberry runners take an old galvanized pail with the bottom neatly cut out to form a cylinder. Sharpen the bottom edge all the way around. Fasten a board across the top with a handle inserted, chuck it down over the plant and cut off all the runners at once.—R. N. L., Ohio.

For Your Emery Wheel. An old livestock clipping machine makes an ideal stand for an emery wheel. It is very substantial and most of them will take an emery wheel with about a seven-sixteenth of an inch hole in the center.—N. Y.

A Good Wagon Brake. I have found that two sections of an old auto casing cut long enough to fasten at both ends of the brake blocks on my wagon insures a positive brake on steep grades. Very little pressure is required to make this brake most effective.—T. O. J.



To Open Drainage. When the drain from the kitchen sink or bathtub becomes stopped the trouble can often be overcome by the use of an automobile pump. Take an old inner tube having the valve stem intact. Cut around the stem a circle of the rubber about five or six inches in diameter. Wet the rubber and hold it firmly over the drain while some one else applies the pump.—Mrs. P. T., Wisconsin.

Eliminate Corners. Instead of corner posts at the corners of my fields, I set each one back six feet

and connect the two with a gate. This not only facilitates passing from one field to the other, but also eliminates bad corners in which to fight weeds and brush.—W. G. A., Michigan.

A One-Man Saw. Where it is necessary for one man to saw down a tree by himself it can be accomplished with this device: Attach one end of an inner tube to the top of a steel stake. Drive the stake into the ground so that the top is the height at which it is desired to saw the tree. Attach the other end of the inner tube to the free end of the saw drawing it tight enough so that it will hold the free end of the saw in place with a man operating the other end. —P. B. P., Nebraska.

Use Horseshoes. Old horseshoes make handy hooks around the barns and sheds. They may be fastened to the joists or studdings with either nails or screws.—H. E. Illinois.

Device Sheds Vines. For those who are troubled with morning-glory vines wrapping on the binder reel slats when cutting small grain, here is a big help. Take a lath and nail one end of it to the end of the reel and the other to the arm nearly back to the hub of the reel. Saw the lath flush with the end of the slat and also the side of the arm. Do this all the way around on both ends of the reel. I very seldom have to take vines off the reel with this simple device.—I. C. B., Illinois.

No Paint Drips. To prevent paint dripping when doing an overhead job of painting cut a hollow rubber ball in half. Slip half of it over the handle with the open side up. It will catch the drippings.—E. L., South Dakota.

How to Soften Brush. We put hardened paint brushes into boiling vinegar, which is allowed to simmer over a slow fire for a few minutes. The brushes are then washed in soap suds, and become soft and usable.—Mrs. H. G., North Dakota.

Saves Axe Handle. My axe handles wear out very quickly when I am splitting wood. To protect them, the handles are tightly wrapped with fine wire for about three inches from the point where they enter the axe heads.—J. M. W., Minnesota.

A Clear Windshield. I learned that by placing a small piece of wood under the hood of my car down in front of the windshield the heat of the motor would keep the ice off the glass. This plan has doubtless saved me many accidents.—E. S., Minnesota.

Release Screw. If you have difficulty loosening a screw, press the end with a red hot poker. The heat causes the screw to expand. When it cools the screw contracts and is easily removed.—P. T., Wisconsin.

How to Loosen Gas Pipe. To tighten or loosen a gas pipe when you have no wrench handy, wrap a light log chain around the pipe. Then put an iron bar thru the hook in the end of the chain and the pipe can be loosened or tightened. Where one pipe is to be held and the other turned, use two chains.—R. P. B.

Paint With Old Oil. Paint the top of the litter carrier tracks with transmission grease that has been drained from the car or the tractor. It will lengthen the life of the carrier wheels and make it easier to operate. —A. B., Wisconsin.

To Clear Water Line. Water from our pump empties into a barrel from which we get our house water. From here it is piped about three rods, underground, to a stock tank. When we moved onto the place this underground pipe line was entirely

stopped up. I took a half of a large thread spool and fitted it into the opening in the bottom of the barrel. Into this spool I fitted the hose of my tire pump. A few minutes' vigorous pumping forced out the accumulated dirt and the water ran thru clean and free.—N. E. D., Colorado.

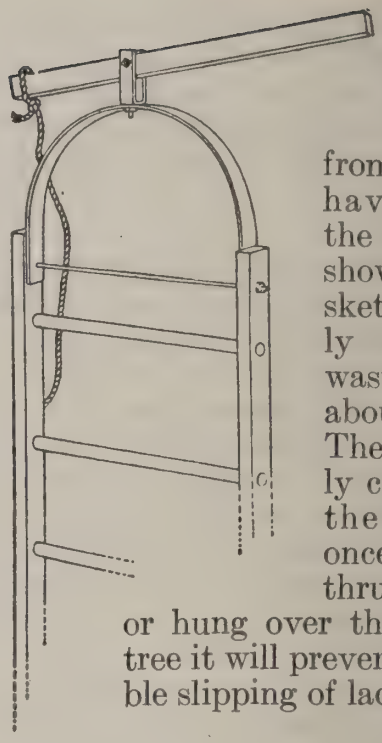
Varnish Saves Brush. Varnish will hold the bristles in a paint brush that has a tendency to shed. With the bristles turned upward, pour a spoonful or two of clear varnish into them. Keep the brush in this position until the varnish is dry.—Mrs. C. W. S., South Dakota.

No Frozen Silage. We eliminate much frozen silage by applying a thin coat of wax to the silo walls before silo filling time.—R. D. K., Wisconsin.

Twine Holder. When doing work where binder twine is needed, try putting a ball in a sack. Leave the loose end projecting and tie the sack loosely. This will prevent the twine unwinding and becoming tangled.—A. S. P., Ohio.

A Good Hitch. When a team will not pull together cross the inside traces, hitching each to the inside of the opposite singletree.—M. W., Missouri.

Make a Marker. In putting up a barb wire fence much time can be saved by marking the posts before putting on the wires. A simple marker can be made from a narrow board about five feet long. On one side cut notches spaced the right distance apart for the wires in a five-wire fence. This will probably be about nine inches. On the other side cut notches spaced right for the wires in a four-wire fence, probably about 12 inches apart. Then one can very rapidly mark each post at just the desired height for stapling each wire. —A. W., Minnesota.



Slipping Ladder. To prevent our ladder from slipping we have provided the attachment shown in the sketch. It is easily made from waste material about any farm. The 2 x 4 is easily controlled by the rope and once it is passed thru a window or hung over the limb of a tree it will prevent any possible slipping of ladder.—O. C.

Staple Puller. A worn-out mowing machine guard makes an excellent staple puller. Drive the point of the guard thru the staple between the wire and the post.—O. G. H., Missouri.

To Start Truck. After overhauling a large truck we found it very satisfactory to belt the rear wheel to the tractor to start it. We chained the front end to a tree and tied one rear wheel to keep it from turning. Then we belted the other wheel. This will work in cases when the wheels, if being pulled, would slide on slick or frozen ground. The tire held the belt perfectly.—K. W., Kansas.

Protect Plow. When thru with the plow, grease it well and slip an old gunny sack over the lay and moldboards and tie it at the top. This keeps the grease from being rubbed off and prevents difficulty in scouring next time the plow is to be used.—R. A. R., Minnesota.

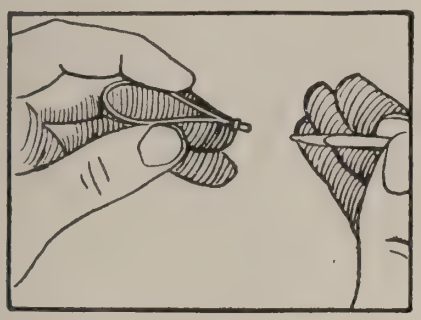
Use Air Pressure. To remove dents from gas cans or tanks, plug all the openings, then fill with water

and apply a 15–20 pound air pressure. Use a wooden or rubber mallet and tap lightly around the outer edge of the dent, until it is pounded into shape.—F. F. N., Pennsylvania.

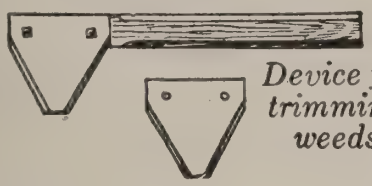
A rubber covered block is handy for cleaning glass

A badly worn screw hole is repaired by sinking a small nut in the material

Bolts fastened in this way make a good temporary weld



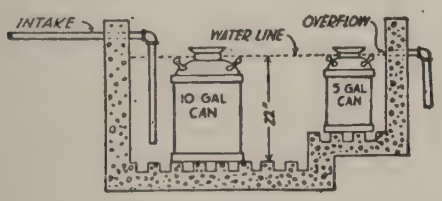
Small screws will hold if tinfoil is forced into the hole with a match



Device for trimming weeds

This keeps Mud Away. I find it very handy to put old tractor or car oil on the inside of car fenders to keep mud or dirt from sticking.—L. G., Wisconsin.

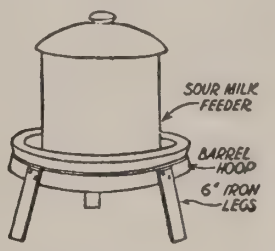
Good Milk Cooler. Vats for cooling milk are easily constructed. The drawing on this page indicates the manner in which mine was built.



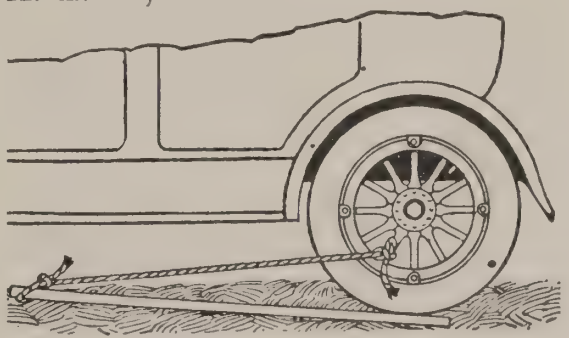
The bottom of the vat should be deeply grooved to provide for circulation of water. This tank is placed between the well and the water tank for livestock. In this way water is kept cool and fresh.—B. W., Missouri.

How to Stretch Wire. By using the tractor to stretch woven wire we save a great deal of time. We find that the tractor does the job quickly and easily.—W. N., Iowa.

Automatic Control. A gasoline engine that uses a magneto can be shut off when the tank is full by taking almost any kind of insulated wire and running it from the engine to the tank. Fasten one end to the magneto wire and the other in the tank at the desired level the water is to reach. When the water touches the wire the engine will stop. Be sure to scrape the insulation off the ends of the wire.—L. E. L., Minn.



Poultry Feeder. The above sketch shows how I made a very satisfactory sour milk feeder for my chickens. The legs are riveted on an old barrel hoop. This is made to a size that will fit any good commercial feeder. The stand keeps the milk high enough so that litter is not scratched into it.—A. L. D., Kansas.

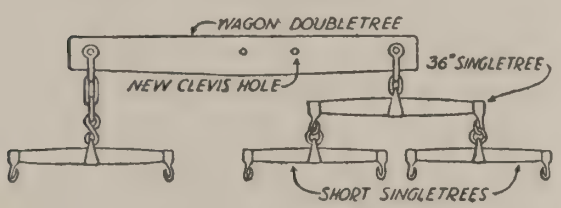


Removing Tires. I have shown in the accompanying illustration an easy way of removing tires from the rims. This tool is easily made from scrap iron. As the free arm is pulled, it compresses the rim so that tire can be removed.—F. W. B., Kansas.

Automatic Gate Closer. A very convenient automatic gate closer is shown in the illustration. The weight used to close the gate should vary according to the size and nature of the gate.—P. S., Pennsylvania.

Marked Tools. I have successfully marked my steel tools in this manner: Warm them slightly and rub the steel with wax or tallow until a film gathers. I then write my name on the wax with a sharp point, cutting thru to the steel. A little nitric acid is then poured on and then it will etch the letters into the steel. Wipe the acid off with a hot, soft cloth.—C. S., Missouri.

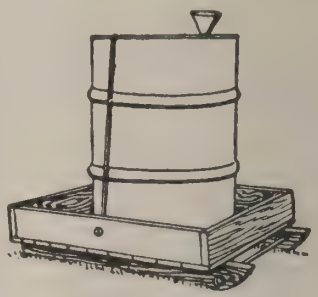
A Three-Horse Hitch. The attached drawing shows how an ordinary wagon doubletree and a 36-inch singletree may be changed to a three-horse hitch. A new hole for the clevis must be made one-third the distance from the two-horse end. Short singletrees must be used. They should be made of good material in order to stand the strain.—J. P., Wisconsin.



Paint Cans. I have found that my milk cans last much longer when I paint the bottom with a good implement paint. Rust usually starts in this place.—R. S., Wisconsin.

For Scratching Hens. If you are bothered with hens scratching in their nests and breaking eggs, insert a piece of one-inch wire netting in the nest. Then put a little chaff or straw over the netting. They will quit.—S. E. P., Michigan.

Water for Hogs. The McLean system of raising hogs forced us to provide water for the various lots. The illustration shows how we used a steel barrel and scrap lumber for this purpose. The device is mounted on runners and the barrel is set on a platform 3 feet square. This platform is waterproof. Planks are laid along the extended end of the runners for the hogs to stand on. Plug the bottom hole of the barrel and pour until full, then insert the plug in the bottom and air pressure will hold the water to the top of trough.—A. L., Iowa.



This fountain is easily made

Emergency Light. Tire trouble came to us one night when we did not have a flashlight with us. In the emergency one of our party held the rear view mirror in front of the lights and in this manner reflected a strong beam of light where it was needed.—Mrs. P. B.

A Handy Tool. A handy and inexpensive tool for cutting grass and weeds, shaving and scraping wood, and similar jobs, can be made from a mower section. Take a piece of wood 10 inches long and about 1 inch square and bolt the section to it with stove bolts 1½ inches long, or for a quicker job nail it on and clinch the nails.—L. R. D., Illinois.

For Repair Work. A great many times in doing repair work, old pieces are fastened to new, but the wood screw holes in the old strips cannot be moved or changed. The head simply sinks right down in often splitting the wood and making a poor job of holding anything. Take a square nut thru which the body of the screw

makes a neat fit; countersink the thread hole on one side for the screw head; cut a square in the wood around the old hole, tap the nut snugly down into it, and turn in the screw into the new wood or part below.—F. B.

This Controls Dust. Dust in our driveway became very disagreeable this summer. Used oil from the tractor and automobile was placed in an old sprinkling can and scattered in the dust. The results were very gratifying.—T. J. C., Wisconsin.

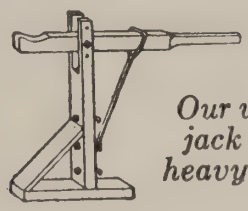
As Good as New. When our wagon box became so full of holes and cracks that we could no longer haul grain in it, it was repaired in the following manner: The sides and ends were removed and the entire floor covered with sheet iron which was fastened to the outside of the box. The sides were then replaced and the box was very satisfactory.—V. C., Nebraska.

How to Remove Blades. When it becomes necessary to remove blades from a mower sickle, place the blade in a vise, point down, but do not fasten it too tightly. Let the bar rest on the top. Strike the projecting back of the blade with a hammer over the rivets. The steel blade readily cuts off the rivets.—H. E. M., Minnesota.

Rings Hogs Easily. To ring the largest hogs with ease, I take a 3/8-inch rope with a loop in one end. The rope is worked into the hog's mouth around the upper snout back of the tusks. The rope is then tied to a post or anything handy. The hog will back up and stand perfectly still while the ring is put in place.—H. F. N., Minnesota.

A One-Man Device. To ring hogs I use a handle from an old spade or scoop. I cut off all but about one inch beyond the handle. Then I make a loop of heavy wire fastening both ends to the stub and leaving a loop long enough to fit over a hog's snout. Slap the loop over the snout and twist it and one man can ring the heaviest of hogs.—E. C. T., Iowa.

How to Make a Jack. Our wagon jack has proved to be a real labor saver. The illustration below shows how it was made from ordinary 2 x 4's. The handle should be cut from good strong material. We also use this jack to pull fence posts.—F. S., Indiana.



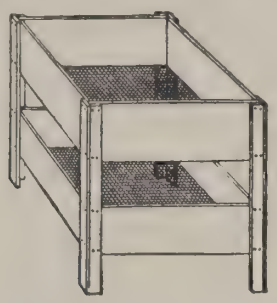
Our wagon jack saves heavy lifting

Use Air Pressure. Sometimes trash gets into the tractor gas tank which will not pass into the sediment bulb. A quick way to remove the trash is to blow out the feed line with a tire pump. Drain the gas out of the tank. Tie a piece of cloth around the end of a round stick half an inch in diameter and long enough to reach the bottom of the tank. Put a few drops of fresh lubricating oil on the cloth and rub the oily cloth over the bottom of the tank. It will collect the trash and grit readily.—W. S. M., Oklahoma.

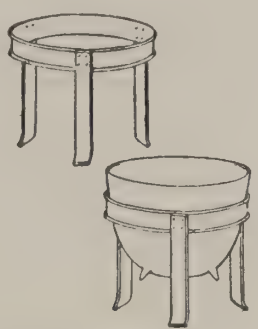
For a Cross Sow. To handle a cross sow when working with the pigs or when driving a mean hog, use a hurdle. Always keep the hurdle between yourself and the hog so that if the hog does attack, you are safe. A good size for the hurdle is 40 inches long and 26 inches high. It should be well braced and include about five crosspieces.—G. F., Ohio.

Prepare Lettuce Bed. Each fall I prepare my lettuce bed. The ground is drawn together like a potato hill. Only a few days in the spring are required to dry the top of this hill. I then dig it down and sow the lettuce.—H. C., Illinois.

Vegetable Storing Rack. An ideal storage rack for winter onions and sweet potatoes is shown in the following sketch. The net wire bottoms allow a free circulation of air which is necessary for these vegetables. The rack is easily made from waste material around any farm. —E. R., Oklahoma.



Use for Old Rim. A rim from an old automobile wheel made a very convenient kettle holder for use out-of-doors. Three pieces of iron slightly bent at the bottom were riveted to the rim to form legs. Such a stand saves both time and fuel.—Mrs. J. I. A.



Good Pig Holder. To hold shotes securely while being vaccinated, we use a V-shaped trough. It is about 3 or 4 feet long and is made of strong boards about 10 inches wide. Four 2 x 2's are securely fastened to the trough, one on either side at each end of the trough. It is kept at a convenient height for the veterinarian. Across the trough about 1 or 2 inches from one end, a strong piece of tire casing is securely fastened, leaving plenty of room for a pig's head, or at least most of his head, under the casing. The narrow space between the edge of the casing and the end of the trough gives a breathing hole to the pig.

We place this trough, whenever possible, with the tire casing end next to a partition on the other side of which are the pigs to be vaccinated. When the pigs are lifted into the trough they are slid endwise as quickly as possible so as to get the head held securely.—W. V. P., Iowa.

Ashes for Poultry House. Each time after cleaning the dropping boards in the poultry house we scatter a few ashes on the boards. That makes them much easier to clean next time.—F. N. J., Missouri.

To Lift Heavy Cans. This sketch shows how we overcame the heavy, difficult lifting of milk cans from our cooling tank. Everyone appreciates how hard it is to lift a heavy can from this position. An inexpensive block and tackle was arranged conveniently in the top of the milkhouse. The hooks which are attached to the handles of the can are easily made from old scrap iron which may be found about any farm. We feel sure that if you have any lifting of this nature you will find our scheme very satisfactory. It has saved us many backaches.—J. J. C., Missouri.

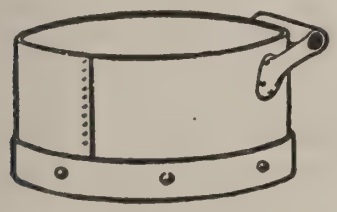
Anti-Puncture Treatment. When we began to have a number of punctures in our tires we treated them as follows: Asbestos was finely ground and mixed with water to make a medium thick liquid. The valve stem was removed and the inner tube filled with this solution. We were surprised with the very satisfactory results. Several nails have been found in the tires.—Mrs. V. McA., Kansas.

Keeps Rust Away. This year when we finished filling our silo we ran a gallon of old crank case oil thru one of the air holes in the ensilage cutter while it was running at normal speed. This keeps the cutter and pipes from rusting.—F W. B., Kansas.

To Protect Trees. When working in the orchard among young trees we slip a piece of an old inner tube about three feet long over the tug and around the end of the singletree. This prevents damage to the young trees.—H. C. H., Missouri.

To Mend Rain Pipes. When the joints of our rain pipes start leaking we cover them with a piece of rubber cut from a worn-out inner tube. This prolongs the life of the spout considerably.—M. N., North Dakota.

Mends Gas Line. To mend a broken gasoline or oil line we clean the pipe carefully and draw a copper wire tightly around the break. A hot soldering copper is then used to run a coat of solder all over the wire. This makes the pipe as good as new. —W. M., Minnesota.



Feeder. The sketch above shows a very handy feed box which we made from old milk cans. They are cut off 14 inches from the bottom and one handle riveted to the side.—J. S., Michigan.

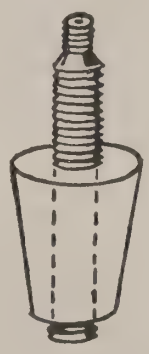
Paint Spreader. Manure is prevented from sticking to our spreader box because we painted the box with used crank case oil. Two coats at the beginning of the season are usually sufficient.—N. S., Minnesota.

Spoon Weeder. Next spring, when you have a flower bed to seed, try my scheme: A large spoon was sharpened on one side and it proved the most effective weeder I have tried.—M. B., Michigan.

For the Mail Carrier. The approach of cold weather makes the mail carrier's job more difficult. To save his working with cold fingers we clip pennies or other coins with a snapped clothespin. It is then easy for the mail carrier to pick up the letter and coins.—Mrs. C. P., Oklahoma.

Keep Water Warm. To keep water in the chicken house from freezing, I insert a 10- or 15-watt electric bulb in it. A red or dark-colored bulb is preferable and a waterproof socket should also be used. Not more than one-half, or at most two-thirds of the bulb should be placed in the water.—A. Q. M.

How to Clean Pipes. To clean out pipes to the drinking cups in the barn, use an ordinary tire pump and a valve stem from an old inner tube. Remove the stem from the tube, take the valve out, and cut off the flange with a hacksaw. Drill a hole thru a piece of wood two inches long, the shape of a bottle cork, and screw it on the stem as illustrated. Insert it in a cup opposite the one clogged and watch the dirt come out.—R. C. S., Wisconsin.



Use of Onion Juice. Frost does not gather on our car windows in cold weather because we rub them lightly with onion juice.—H. D. H., Kansas.

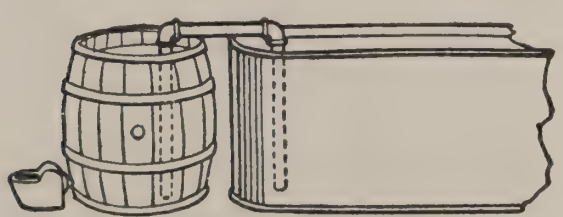
Stops Quarrels. Quarrelsome roosters may be prevented from injuring each other by tying a loop at each end of a strong cord. One

loop is put over the rooster's head and the other one allowed to hang. When he tries to fight he gets his feet in the second loop and soon gives up in disgust.—F. H., Michigan.

Good Straw Carrier. When we are obliged to carry straw for a distance to the hoghouse we use a sling very similar to a wagon sling. Take three sticks 1 inch square and 30 inches long. We use four pieces of small rope or heavy twine and place the sticks about 16 inches apart. This makes an easy method of carrying straw, especially on windy days. —L. A. B., Ohio.

For Chewing Habit. To keep horses from chewing on wooden mangers, we put a smooth wire around the top. We do not have any more trouble with this habit.—J. P., Minnesota.

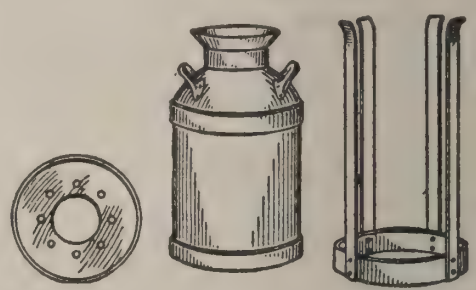
Watering Hogs. This siphon system pictured below will save a lot of time and labor in watering hogs. First force all of the air out of the pipe or fill it with water before inverting it, one end in the water tank and the other in the barrel. Have the end in the barrel lower than the one in the tank.—G. E. H., Missouri.



To Brighten Car. After you have washed the car and fenders have acquired that dull gray film, moisten a part of one with a chamois skin, then go over this with a rag wet with gasoline. A few minutes later, but before the surface is dry, use a clean cotton cloth or chamois skin wrung dry, and rub hard. Repeat the process if necessary. The original luster will come out.—W. J. B., Iowa.

Relieves Gas. When one of our cows gets bloated, we tie a rope thru her mouth like a bridle. If the rope is first soaked in salt water, she will chew it and thus greatly relieve the gas pressure.—W. M., Missouri.

Doors Stay Open. My garage doors stay open, and here is my method: Two wooden sticks about one inch square and three feet long are attached with screw eyes to the door at the proper height. When the doors are opened, these sticks drag, but when they attempt to close, they catch in the ground. A nail at the proper distance is driven into the door so that the sticks may be fastened out of the way when not needed.—A. J. B.



Keep Cans From Tipping. The accompanying sketch shows a device which I use to keep partially filled milk cans from tipping in the cooling tank. It is made from a 14-inch brake drum taken from an old truck. To this are riveted, on the outside, iron bars $\frac{3}{8}$x1$\frac{1}{4}$x28 inches. The can is slipped inside of these bars. Holes in the bottom allow free circulation of water.—F. J. T., Ohio.

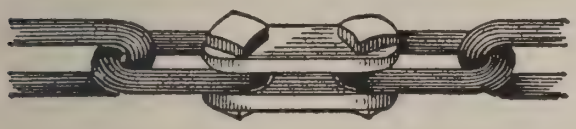
Mousetrap "File." We found a new mousetrap a very convenient file for cream accounts. The trigger was removed from an ordinary snap trap and the base attached by a screw to the wall.—W. S., Iowa.

To Catch Chickens. My easy method of catching chickens consists of placing a crate outside the poultry house and against a small door. The fowls are driven thru this door and into the crate.—Mrs. R. K., South Dakota.

Light Stand. A very handy and easily constructed flashlight stand can be made from brass, copper, or iron wire with a pair of pliers. This stand makes it easy to focus the flashlight on one's work and costs nothing to make.—C. H. W.

Glue Loose Screws. Where there is vibration, screws used to hold metal to wood, as those used to hold the governor springs on a phonograph, frequently come loose. If the screws are dipped in glue and replaced before the glue sets they will not get loose any more. If one wishes to remove a screw set in this way, a heated screwdriver held to the end of the screw will soften the glue and the screw can be easily removed.—H. P.

To Repair Chain. There are times when it is difficult to get a broken log chain repaired properly. For a temporary repair that is quickly made

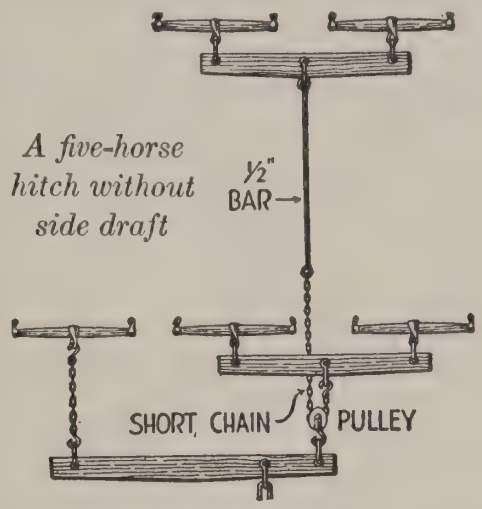


let me suggest cutting two strips of heavy strap iron the length of an ordinary length. These are clamped together with short bolts. They are not drawn down tight enough to grip the chain. The threads are riveted to prevent the nuts from working off. Bolts of the same size as the links in the chain should be used.—R. W.

Check Seed. Drilling grain with a tractor makes frequent trips necessary to see if the supply of seed is exhausted. To save myself so many trips from the tractor I sawed a small hole in the drill box and covered it with a piece of glass. This is plainly visible from the tractor seat and saves much time.—B. B., Kansas.

Use Hot Water. When it is necessary to drive a nail into a plastered wall dip it in hot water. This prevents the plaster from cracking.—Mrs. C. B. W., Ohio.

Five-Horse Hitch. In the drawing I have shown a five-horse hitch which has worked very well for me. It completely eliminates side draft.



A five-horse hitch without side draft

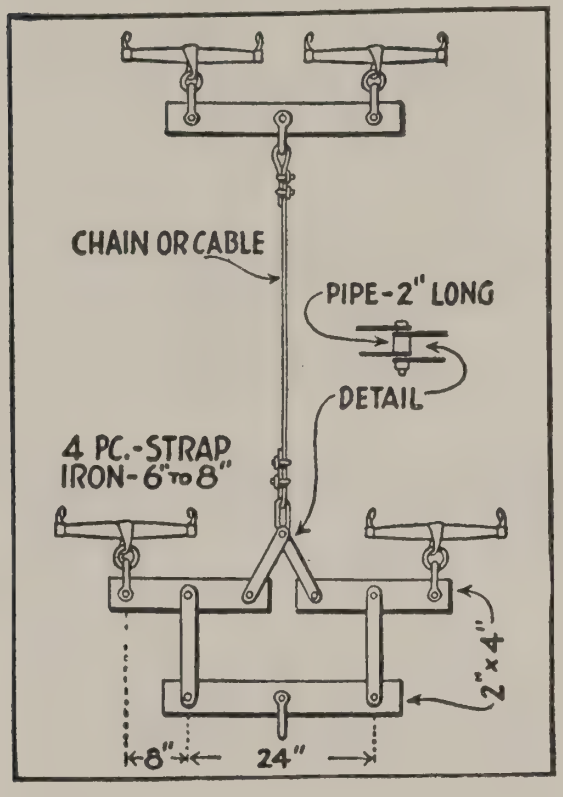
I use a 5-foot stick for the main doubletree. A hole is bored 2½ inches from each end. Eleven inches from one hole another hole is bored for the clevis to the plow. In the hole nearest the center hole a clevis with a pulley on it is inserted. A cable is used and doubletrees are fastened to both ends. All singletrees are 30 inches long.—H. L., Iowa.

Keeps Snow From Sticking. We found by coating scoop shovels with melted paraffin that wet snow will not stick to them.—H. S. J., Missouri.

Saves Halter Ropes. A horse that persisted in breaking halter ropes was cured in this way: A rope 7 feet long was attached to the halter. Then it was run thru a hole in the manger, and tied to the horse's foreleg.—E. C., Iowa.

Keeps Duplicates. To lose your car key is usually a real misfortune. We ordered a duplicate key which is attached to a secret part of the car by a wooden block. A recess in the block large enough to admit the key was hollowed out with a knife. The block is attached with two screws.—E. R. S., Wisconsin.

Keeps Spreader Clean. To prevent manure from freezing to the spreader apron we always scatter a little dry straw in the bottom before loading. This leaves the spreader dry for the next day.—M. S., Wisconsin.



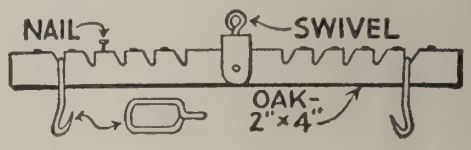
Four-Horse Hitch. The illustration above shows a four-horse equalizer which has proved very satisfactory for gang plow work on our farm. We find it provides more room for the horses than ordinary four-horse hitches. Furthermore, it largely eliminates side draft, so bothersome in plowing operations.—L. R. Y., Iowa.

Tire Pump Useful. A tire pump has proved very convenient to us in cleaning our seed drill of dirt and seed.—Mrs. F. B., Oklahoma.

How to Fill Grease Guns. To fill my grease guns without waste or mess I cut a hole in the bottom of the grease pail. This hole is placed over the top of the gun and with a board or tin I force down the grease which then flows thru the hole.—A. J. R., Minnesota.

How to Load Hog. A stubborn hog can be successfully loaded into a truck by placing a bushel basket over his head and backing him where he should go.—Mrs. N. L. W., Kansas.

Paint Tug Links. Our tugs have chain traces which attach to the singletree. It is a nuisance to count each link in order to have the tugs the same length all around. I paint a certain link on each tug, which saves me a great deal of time.—N. H., Ohio.



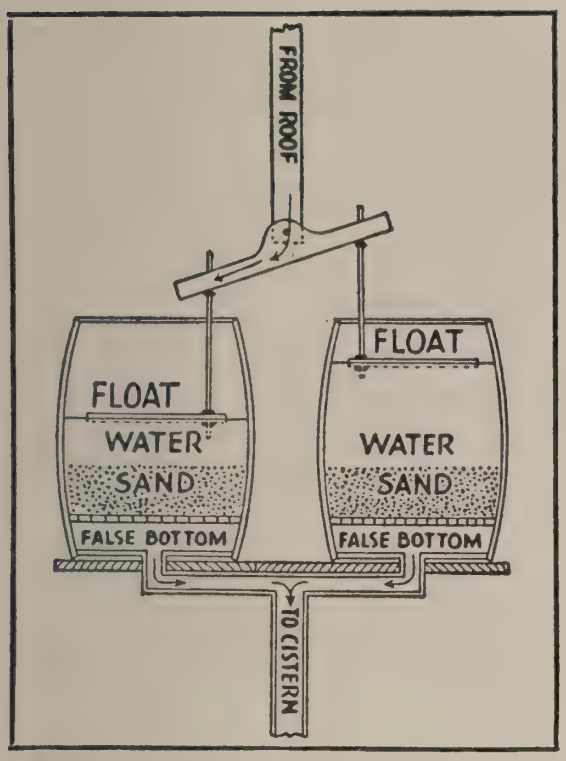
Skinning Gambrel. This sketch shows a skinning grambrel which we made from waste pieces of machinery. You will find it light and very convenient.—H. A. W., North Dakota.

For Worn Bolts. When the threads on a bolt or burr become so badly worn that they will no longer hold, split the bolt with a hacksaw and spread the threaded part with a chisel.—E. C., Nebraska.

Non-Slip Ladder. Stepladders will not slip or mar rugs and floors if they are provided with shoes made from an inner tube, which are tacked to the bottom of the legs.—S. S. C., Michigan.

To Clean Grindstone. When a grindstone becomes badly coated with dirt and steel, hold a piece of ice against it while it is turned slowly. This will remove such accumulations very quickly.—D. B., Minnesota.

A Stretcher Handy. A small wire stretcher is always carried on my corn planter. If the wire breaks I am then able to pull the two ends together without walking the full length of the field and pulling up a stake.—J. G. H., North Dakota.



Filtering Rain Water. The sketch on this page illustrates our method of filtering rain water. It has proved very satisfactory and it works automatically.—H. D., Wisconsin.

Oil Handles. Fork and shovel handles are greatly improved by rubbing them occasionally with a cloth dipped in linseed oil.—L. K., Ohio.

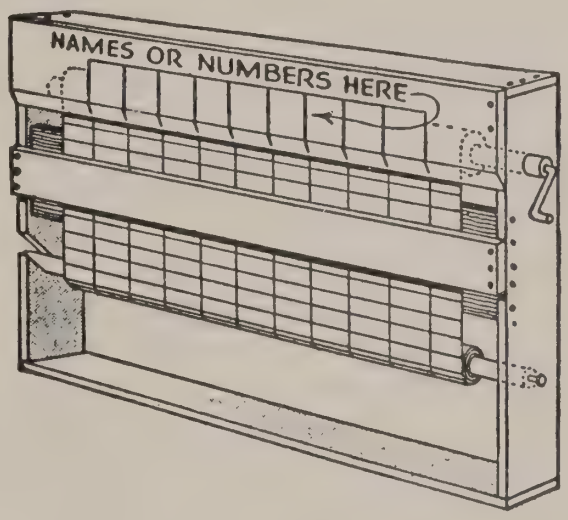
Oil Chains. Dipping our tire chains in used car oil has materially lengthened the life of this equipment for us.—D. S., Michigan.

Storing Canvas. Are your binder canvases safe from the mice? Two old barrel hoops suspended from the rafters in my machine shed carry our canvas where it is safe.—C. S., Nebraska.

A Toe Pull for Door. A toe pull on the outside of screen doors is a great convenience when you have both hands busy. This may be a very simple little block of wood securely nailed, under which the toe of the shoe may be caught.—R. G. V.

To Hold Tails. We find rubber bands cut from a used inner tube very useful in keeping the horses' tails up during muddy weather.—A. L. S., Missouri.

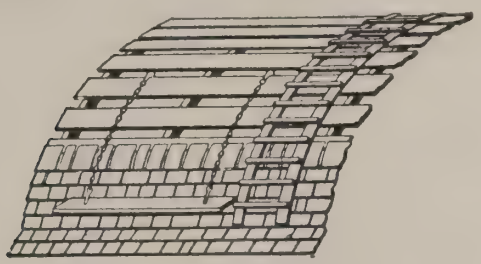
To Keep Milk Record. The reel illustrated below for milk record sheets in the barn is made of a frame of ½-inch boards 2 inches wide. It should be about 21 inches wide and 18 inches high. I made two rolls from broom handles and fastened them with nails. On one side of the top I put a handle made of wire for winding up the sheet. The bottom roll is removable. I put a wide board between the rolls over which the sheet slides. A narrow board is put over the sheet to keep it smooth. A narrow board on top has the names of the cows to match with the ruling on the sheet. Wind the sheet bottom first on the narrow roller, slip it between the boards, and fasten the top of the sheet to the upper reel with thumb tacks on tape. Wind up as the sheet is filled.—M. A. M., Minnesota.



How to Keep Screws Tight. Screws have a tendency at times to come loose in light tools that are carried in farm implements. We place a drop of solder on the head of the screw. This is easily removed should it be necessary to change the screw at any time.—E. B. H., Kansas.

How to Steady Box. My salt box was usually up side down in the barnyard. I then took four pieces of 2 x 6's which were 4 feet long and spiked them together, leaving a box in the center 1 foot square for a block of salt.—J. J. R., Minnesota.

To Shingle Easily. This drawing shows the platform I used in shingling my round roof barn. Use a 2x8-inch plank of any length desired with eye bolts at each end. Fasten the chains long enough to reach above the shingles and hook over the sheathing. This can be moved up as you shingle, by hooking over a higher board.



Salt to Cement—We found it very satisfactory to add 1 or 2 pounds of salt to a sack of cement when mixing concrete in cold weather. This helps to prevent freezing as well as drying too rapidly.—C. E. C., Ohio.

To Protect Blades. Injury from scythes is prevented as well as damage to blades by greasing them and then covering them with sections of old inner tubes before they are put away for the season.—S. K., Iowa.

For Icy Walks. Ashes sprinkled on icy walks will track into the house. In the cellar keep a box of chopped cork such as that in which white grapes are packed. Heat this cork in the oven and sprinkle on the ice. —L. M. M., Illinois.

Grease Your Saw. A saw which has a tendency to pinch will work better if it is greased lightly with an old bacon rind.—R. F., Pennsylvania.

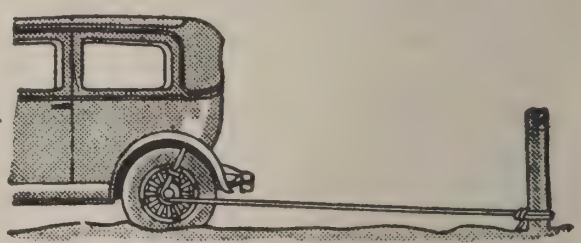
Feeding Greedy Horses. Horses that eat too rapidly or throw their feed out of the box are easily controlled by placing a large smooth stone in the middle of their fed box. —J. K., Missouri.

A Sure Cure. To break a cow from sucking herself put a horse collar round her neck.—O. T., Kansas.

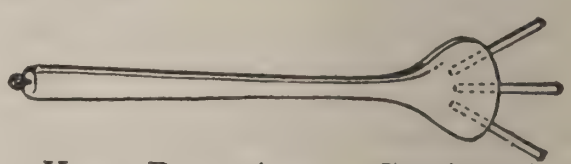
Tank Controller. We have an overhead tank in our barn. To save the bother of watching to see when it becomes full, we run a small wire from the engine spark plug along the pipe line to the tank and let it reach to the edge of the water line. It was fastened along the way with insulators. By running another ground wire from the water pipe to the engine it makes a complete circuit. Now when the tank is full it automatically shuts off the engine.—Mrs. G. E. B., Minnesota.

Treat Ropes With Oil. The life of ropes and especially hay carrier ropes can be lengthened if treated with linseed oil.—F. T., North Dakota.

Stuck in Mud. A plank 3 feet long and a rope or chain attached to the spoke of the car will usually take a car out of the mud in a hurry. Put the plank far enough under the wheel so that it will have good traction — W. H. S., Nebraska.



Devil's Pitchfork. The devil's pitchfolk shown in the illustration below is easily made and will save the housewife a lot of scaldings in dipping the clothes from the boiler and washing machine on washday.—E. E. W., Illinois.

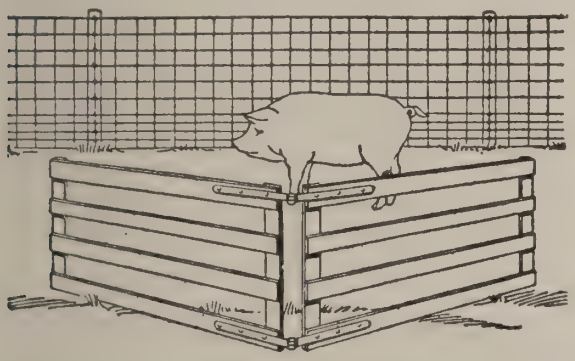


Keep Rust Away. Coating the chains of the manure spreader and other machinery with transmission oil makes them work much more smoothly and greatly increases the life of the chains.—H. H., Iowa.

A Good Bit Carrier. There are times when you find it necessary to carry bits to the field. Unless you take them all you are likely to arrive with one that does not fit your needs. From the woodpile I selected a block about 6 inches long and 6 inches in diameter. In it I bored different-sized holes to accommodate all of the bits usually needed. A strap on this block for a handle completes a very convenient carrier.—G. G., Missouri.

To Destroy Cutworms. Cutworms no longer destroy our cucumber plants since we started mixing sulphur in the dirt around the seeds when they are planted. The plan is worth trying.—Miss H. H., Minnesota.

Catch Hogs Easily. A handy device for catching a hog in the lot is made by hinging two gates as shown below in the illustration. The hogs can be caught at any place along the fence.—C. E. S., Kansas.



For Easier Riding. To relieve the jarring while riding a tractor, strap a whole piece of inner tube tightly across the tractor seat.—G. C. D., New York.

To Kill Dandelions. To kill dandelions pull out the heart of the dandelion in your yard and pour a few drops of coal oil in the center of each one.—Mrs. T. H., Kansas.

A Convenient Switch. I have a hinge on the floor of my garage and just inside the door which turns on the light when the front wheel of the car runs over it. The hinge is connected to the light. A block is placed directly under the hinge so that it will not ruin the switch. A button is also necessary to turn the light out as I leave.—R. B., Missouri.

A Handy Ladder. The ladder I used on my round roof barn was built on the same plan as the rafters. I built each side rail of 1 x 4-inch material, using two thicknesses of board, and bent them in rafter form. I hung the ladder from the ridge board of the barn, using a chain to tie.—E. E. S., Wisconsin.

Protected Drinking Cups. We had trouble with our cows lapping water out of their drinking cups and splashing it over onto the other cows' feed and bedding. We corrected the situation by putting an ordinary screen wire horse muzzle into the drinking cup, catching its upper rim just under the inner edge of the drinking cup.—K. T., Michigan.

How to Cure Balky Horse. A balky horse can be temporarily cured by making a loop of common binder twine and pulling it tightly over his ear.—L. P., Michigan.

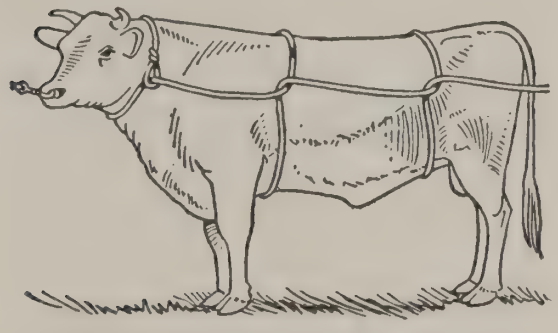
To Repair Bolt Threads. If the threads on a bolt or pipe become worn, one can save a trip to town by cutting a long, slender triangle of a light-weight tin the length and width of the pipe. Screw the bolt into the nut and it will hold until new threads can be cut or the bolt replaced.—A. A. L., Ohio.

For Children. A popular playground piece of equipment for the children can be made from an old set of buggy wheels. Take one wheel off the axle and bury this end fairly deep, leaving the other wheel elevated in the shape of a merry-go-round.—Miss I. L. G., South Dakota.

Keep Oil Handy. We make it a rule to have a can of old crankcase oil in the field with every piece of machinery. Every night we coat the moldboards, disks, and other exposed places with oil. If it rains during the night the machines are always ready for work the next morning.—L. A. H., Missouri.

How to Wash Cistern. For washing newly plastered cisterns use a small amount of alum dissolved in water.—V. R. P., Minnesota.

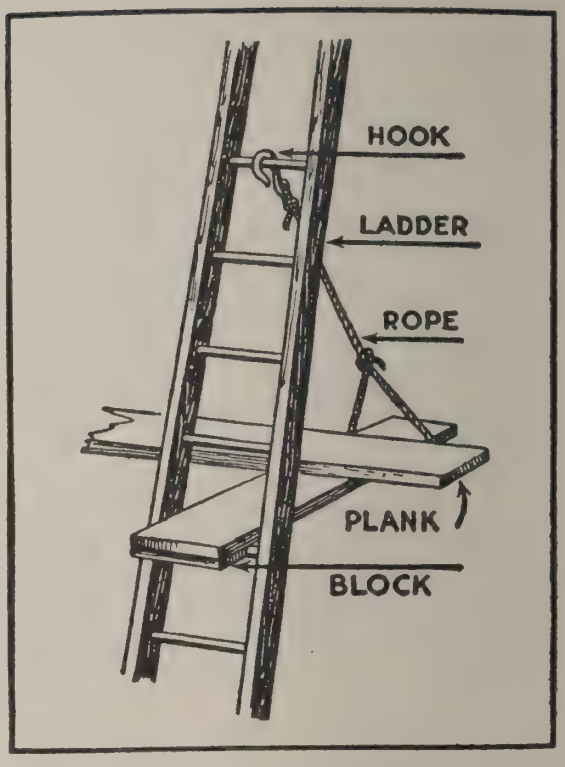
How to Throw Calf. When throwing a calf or bull simply put a rope around the neck and half-hitch once just behind the shoulders and again around the flanks as shown in the illustration. Pull on the rope and the animal will come down easily.—C. G.



To Clear Gas Line. If the gas line in your car gets clogged up, take one end loose and attach the tire pump. A few strokes will usually clean it out.—W. L., Missouri.

Oil Your Staples. When driving staples into hardwood fence posts, pour a little oil over them first and you will have much less difficulty with bending and rusting.—E. S., Iowa.

Place Water at Roots. When it is desirable to water trees, shrubs, or other plants the job can be made much more effective by taking a piece of old stovepipe, or taking both ends out of a tin can and inserting it several inches into the ground, pouring the water in gradually so that it will soak in. This gets the water down where it is available to the roots.—C. E., Wisconsin.



A Convenient Scaffold. This scaffold is a big help in painting and other jobs on a building. The illustration above shows just half of the scaffold. Another ladder, chain, and plank, just as shown in this illustration, are required for the other end of this scaffold.—J. K., Kansas.

How to Remove Nails. To prevent nails from getting into the feed grinder while grinding grain, simply place some large magnets so that the feed will have to move over them.—A. W., North Dakota.

How to Kill Dandelions. We kill dandelions by sprinkling a few drops of sulphuric acid in the center of each. E. B., Michigan.

To Straighten Hammer. When a hammer face becomes rounded from use, grind it flat again on the grindstone and it will not glance off the nailheads so easily.—Mrs. S. R. M., Missouri.

A Ready Light. If caught on a dark night with a flat tire and no flashlight, a rear view mirrow held by someone in front of the car lights will reflect an excellent light back to the worker.—Miss D. H., Wisconsin.

To Stop Horse Kicking. To stop horses from kicking in the stalls, suspend a rope from the ceiling on either side and just to the rear of the horse. Tie each to a pole about 4 feet long as a swing. When the horse kicks it will swing back and forward and break him of the habit.—F. P. G., Indiana.

Hot Nails Driven Easily. Hot nails can be driven into plaster with much less danger of cracking it.—Mrs. B. P. N., Iowa.

A Rose Trellis. An attractive rose trellis for the garden is made by taking two 2 x 2-inch boards about 5 feet long and sharpened at one end. Bore three 1-inch holes in each, the first about 3 inches from the top, and the others spaced about 1 foot apart. Use three old rounds or other like material for cross-sections. Next make a loop of wire in each end about 1 foot longer than the cross-section. Slip the loops over the tops of the supports to hold them together. Drive the sharpened ends firmly into the ground and drape the rose canes over the trellis. In the fall this can easily be taken apart and the canes dropped to the ground and covered for winter protection.—Mrs. A. C. S., South Dakota.

A Time Saver. Place nose baskets on the horses when starving them just before giving capsules. This will save a lot of time in endeavoring to keep feed away from them.—Mrs. L. J. T., Iowa.

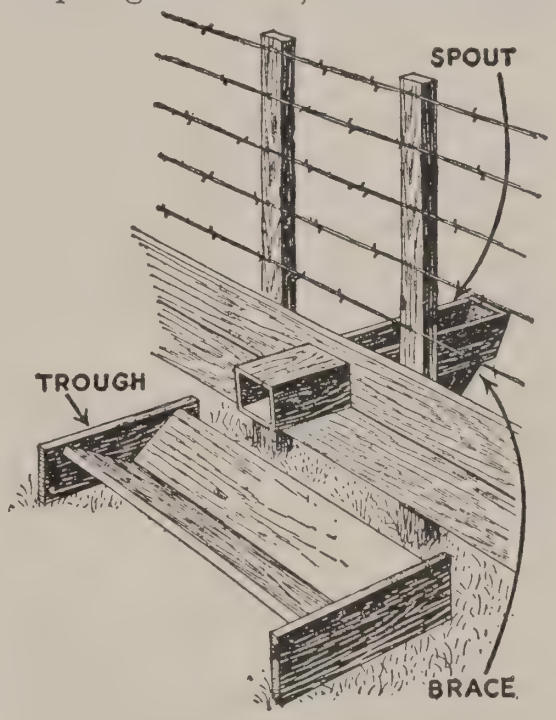
Grease Removes Wax. In grafting our fruit trees in the spring we keep the grafting wax from sticking to our hands by keeping a piece of pork rind in the basket and rubbing our hands on it occasionally.—R. B., Pennsylvania.

Kerosene for Crows. I put 1 quart of kerosene to 1 bushel of corn just before planting. This keeps the crows away and does not hurt the corn.—P. V. D. P., Wisconsin.

Protection From Worms. To keep cutworms away from young cabbage and tomato plants, cut both ends out of a tin can and insert them in the ground about 2 inches deep around the plants.—Mrs. A. S., Iowa.

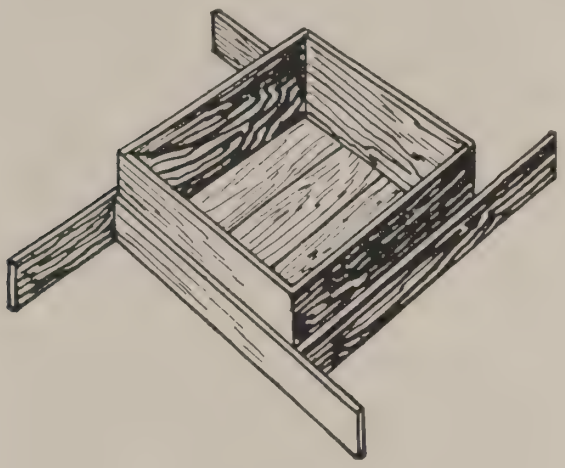
How to Make Stone Boat. We make a very satisfactory stone boat from a discarded automobile frame which was sawed off about 7 feet from the front and turned upside down. The frame was then covered with strong planks.—O. H., Minnesota.

Feeding Pigs. This spout from the outside of the pig pen to the troughs saves many steps. It also avoids the trouble of fighting with the pigs to keep them from knocking the buckets of milk and other feeds out of our hands. The spout should be set at a steep angle.—G. G., North Dakota.



How to Strengthen Axe. To prevent the axe handle wearing out just above the axe, drive an old three-cornered file into the opening of the under side of the handle. Break it off with about 3 or 4 inches exposed. This will prevent the handle from splintering away when splitting or chopping wood.—A. L., Minnesota.

Salt Box. A salt box as illustrated cannot be easily turned over by the livestock and helps in keeping a clean supply of salt before it at all times. —C. M., Nebraska.



Chop Mangels With Hoe. I chop mangels for the cows in a large trough. I cut them with a heavy hoe in which the shank has been nearly straightened and the blade sharpened. —S. N., Minnesota.

To Secure Worn Bolts. When the threads strip from a bolt so the nut will no longer hold cut a piece of tin and place about the threads and replace the nut. You will find that it holds, at least until you can get a new bolt.—A. L. R., Michigan.

To Keep Roosters From Fighting. To stop roosters from fighting tie them together by their feet. A heavy three-foot cord is sufficient.—Mrs. J. A. S., Illinois.

Feed Grinding Made Easy. Feed grinding is made easier by having the bin located above the grinder where the grain runs down the spout into the hopper. Likewise blowing the ground feed thru long pipes into bins in the hoghouse and other buildings makes it an efficient way to get the feed where it is wanted.—H. H., Minnesota.

To Move Fence. When I have a barbed wire fence to move I fasten the loose end of the wire to the cylinder of the manure spreader and set the machine in gear. I can roll about 160 rods on the cylinder at one time.—N. K., Minnesota.

A Good Emergency Light. If you have to change automobile tires on a dark night an emergency light can be made by raking some sand or dust into a conelike pile, pouring a little gasoline on it, and setting it on fire. This will burn for quite a little time. It must be kept a safe distance from the gasoline tank.—D. E. C., Indiana.

Filling Sacks Easily. Filling sacks with grain or other material can be made much easier by using a discarded 10-gallon milk can. Turn it upside down, cut the bottom out of it, and fasten it on to the granary wall or any other place where it may be desired. Sacks can be readily adjusted around the mouth of the can and one man can work nearly as fast with this arrangement as two can where someone is needed to hold the sacks.—Miss H. P., Nebraska.

Keep Horse From Kicking. To keep a horse from kicking his mate in the same stall, tie a rope around his rear leg just above the hoof and tie the other end to the halter or bridle bit as shown in this illustration.—D. G., Kansas.

To Stop Hogs Fighting. When you have two bunches of strange hogs to put together in one pen you can prevent their fighting each other

by smearing a little used oil on all of them with an old brush. The oil destroys the odors to the point where they are not able to tell the groups apart.—C. G., Ohio.

Putting on Chains. When stuck in the mud without chains it is usually a difficult job to get them on. I lay the chains over the wheel so that one end hangs down in front of the wheel nearly to the ground and tie this to the wheel by means of a short piece or wire or rope, passing it over the inside of the rim between the spokes. When the car is started the wheels begin to spin and the chains are pulled under the wheels so they become effective. As soon as I get on solid ground I fasten the chains in the proper way.—G. L., Kansas.

How to Keep Wheels Tight. I use linseed oil to prolong the life of wagon wheels and to keep the tires tight. In order to soak the wheels with the oil I raise the wagon until the wheels are slightly above the ground. Then I take a part of an old automobile casing and fit it over the bottom of each wheel, filling the case with oil. I turn the wheels every couple of hours until they are entirely soaked.—T. F. M., Missouri.

Uses Old Inner Tube. When working horses and mules in a field infested with cockleburs much difficulty in preventing the tails from getting matted with burs can be eliminated by using part of an old inner tube.—O. H. R., Kansas.

Glue Tightens Screws. To prevent screws from coming loose, dip the threads in glue and screw them back into place.—H. D. L., Nebraska.

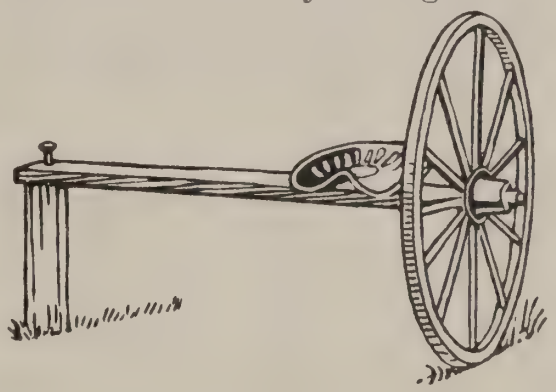
For a Car-Chasing Dog. Fasten a wire around the dog's collar and a stick to the other end just high enough so that it will strike the dog about the feet. This will cure him of chasing cars.—H. C., Iowa.

For Broody Hens. To break up broody hens build a coop out of laths and hang it up so as to permit air to circulate around the hens at all times. It will be only a few days until they will be ready to begin laying again.—Mrs. H. L. M., South Dakota.

Handling Hogs Easily. Try this method for handling hogs: Put the part of a horse's halter that goes around the horse's nose around the pig's neck. Buckle the part that goes around the horse's neck around the body of the pig just behind the front legs. He will be easily led with the halter rope.—T. D., North Dakota.

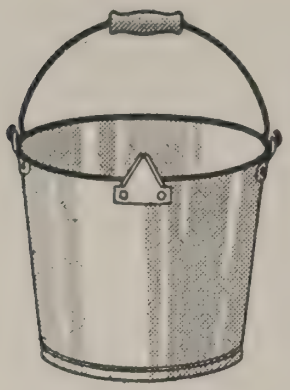
How to Remove Tar. To remove tar from the automobile, first saturate all the spots with linseed oil. Let the oil stand a few minutes to thoroly penetrate the tar. Then with a cheesecloth soaked in the oil wipe the spots off carefully.—J. K., Ohio.

For Children. A handy piece of playground equipment for the children can be made by bolting a 2 x 4-



inch plank to the top of a short post set in the ground. Using the plank for an axle fasten the other end to an old buggy wheel and attach a discarded mowing machine seat to the top of the plank as shown in the illustration.—B. M. C., Missouri.

To Remove Paint Smell. To remove the smell of fresh paint put a pail of cold water in the room and change it every two or three hours.—I. E., Missouri.

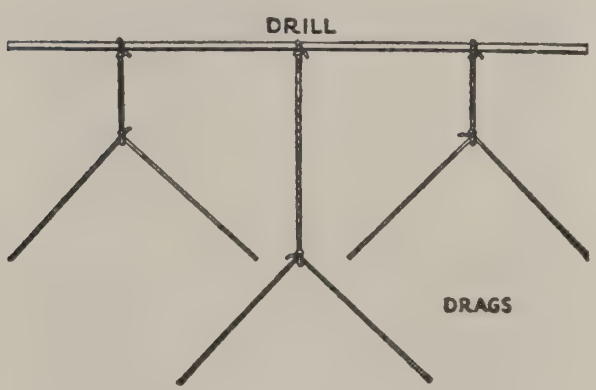


A Twine Holder. When tying corn shocks in the fall I put the ball of twine in an old pail to which I have riveted an old binder or mowing machine section. The twine does not get tangled up and the knife is always handy.—F. P., Iowa.

To Tighten Screws. If screws become loose remove them and fill the holes with steel wool, then screw them back in place and they will hold.—F. M. M., Nebraska.

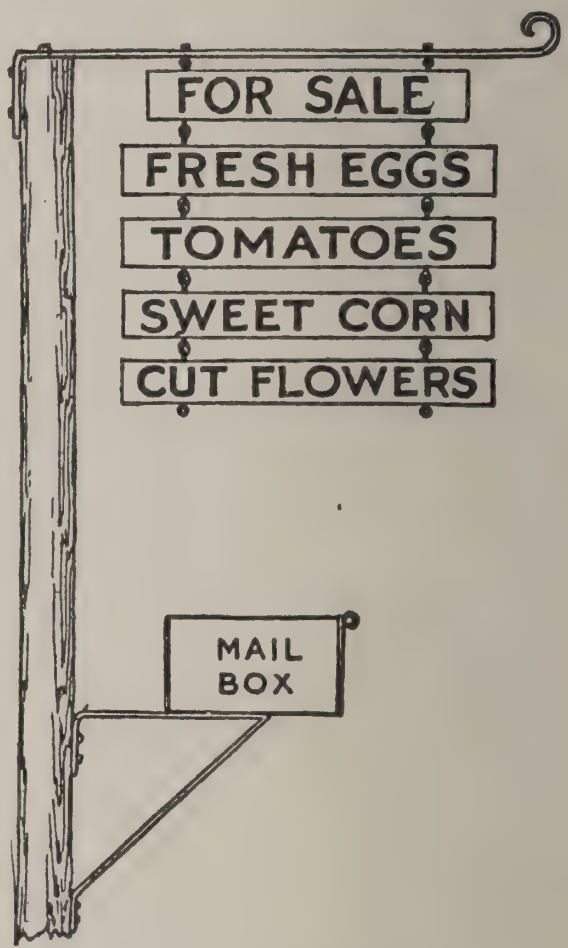
How to Remove Burrs. Burrs may be removed from rusty bolts by heating them slightly. Bolts in a heavy machine may be heated by applying a hot iron to the burr for a short time.—C. W., North Dakota.

A Comfortable Seat. Oat straw placed in a medium-sized burlap bag and used on farm machinery seats makes riding much more comfortable.—W. V. B., Ohio.



To Cover Seed. When we have trouble covering our wheat on account of cornstalks we replace the chains with pieces of light strap iron about three feet long and bent at right angles from the center. We attach them to the drill as shown in the illustration.—S. T., Nebraska.

A Good Road Sign. Our road sign has sold many dollars worth of produce for us even tho we are not on a main highway. The drawing gives you a good idea of how it is constructed. Each sign is hand-lettered on both sides of a board previously painted white. Signs are connected with screweyes so that they are easily changed.—Mrs. F. W. C., Minnesota.



To Protect Cows From Flies. To prevent flies from bothering the cows at milking time split two gunny sacks and sew them together making a sheet about twice as long as it is wide. We use one of these for each cow.—R. R., Illinois.

Try This One. A short chain or plow clevis fastened on the horse's front leg behind the knee will prevent him from chasing other livestock in the pasture.—I. W. W., Oklahoma.

DO YOU WANT TO

KNOW?

Alfalfa Seeding

Question: How many pounds of alfalfa seed are recommended to the acre, and what time is best for planting?

Answer: From 10 to 20 pounds of alfalfa seed may be planted per acre, and spring seeding is usually from late March into early June, while late summer planting, in August, is favored by many.

By using a drill, the amount of seed required per acre is considerably reduced. Heavier seeding is practiced in the humid regions than the more arid.

Hay and Pasture Mixtures

Question: Will you please inform me as to what may be planted for hay and pasture on good upland soil?

Answer: The following mixtures have proved very satisfactory for average land. The quantities given are pounds per acre:

Timothy	9
Red Clover	6
Timothy	6
Orchard	4
Red Clover	4
Alsike Clover	2
Timothy	9
Alsike Clover	4
Timothy	9
Red Clover	4
Alsike	2

Question: How much dwarf Essex rape is planted per acre where it is planted alone, and also how much is planted when planted with oats or other spring grains for summer pasture?

Answer: When rape is planted alone, from 5 to 7 pounds will be planted anywhere from March until May. The planting depth will run ¼-inch to ¾-inch. Where oats and rape are planted, the seeding may run from 1 to 1½ bushels of oats per acre and 4 to 6 pounds of rape per acre. Usually when rye is employed, a bushel of rye and 4 pounds of rape to the acre will be planted.

Question: Is there any annual mixed hay that we could use where a timothy and clover seeding has failed?

Answer: Among the mixtures to provide a hay part legume and part carbonaceous, the type of hay referred to as a mixed hay, the following may be suggested:

2 bushels of oats
1 bushel of field peas
1 bushel of soybeans
10 pounds of Sudan grass
2 bushels of oats
10 pounds of sweet clover

When feeding sweet clover in the spring with oats, it will be advisable to use hulled, scarified seed.

Question: What are the rules for determining the number of bushels of grain or shelled corn in a bin?

Answer: Multiply the length by the width by the depth, all in feet, and divide by 1¼.

Question: How is the number of bushels of ear corn in a crib determined?

Answer: Multiply the length by the width by the average depth, all in feet, and divide by 2.5. Or, if the crib is round, multiply the distance around the crib by the diameter by the depth of the corn, all in feet, and divide by 10.

Question: Will you please give us a rule for finding the number of tons of hay in a stack?

Answer: Multiply the overthrow, that is the distance from the ground on one side over the top of the stack to the ground on the other side, by the length by the width, all in feet; multiply by 3; divide by 10, and then divide by 500 to 600, depending on the thoroness of settling in the stack.

Question: Will you please give us a recipe for making grafting wax?

Answer: Four parts rosin, 2 parts beeswax, 1 part tallow, or war linseed oil. Melt these three ingredients together, stirring to prevent mixture from becoming lumpy, and be sure that you melt with due care to prevent danger of fire. After the ingredients are melted and mixed, pour into cold water. Grease the hands and pull the wax like taffy candy until it becomes a light color. It is then stored until needed. It will have to be melted and applied to the graft with a brush.

How to Tell the Ages of Horses

Birth to 2 weeks	Incisor milk teeth appear
4 to 6 weeks	Intermediate milk teeth appear
8 to 9 months	Corner milk teeth appear
1 year	All milk teeth wearing
2½ years	Permanent middle incisors appear (upper and lower)
3 years	Permanent middle incisors wearing
3½ years	Permanent intermediate incisors appear
4 years	Permanent intermediate incisors leveled
4½ years	Permanent corner incisors appear
5 years	Permanent corner incisors leveled (full mouth)
6 years	Lower middle incisor cups disappear Lower corner incisors extended a little under upper corners
7 years	Lower intermediate incisor cups disappear, a notch seen on upper corner incisors
8 years	Corner incisor cups disappear; notch generally disappears
9 years*	Lower middle incisors rounded; triangle shaped enamel on top
9½ years	Upper middle incisor cups leave
10 years	Lower intermediate incisors rounded
10½ years	Upper intermediate incisor cups leave
11 years	Lower corner incisors rounded
11½ years	Upper corner incisor cups leave

* *Note: Age indications from nine years only approximate.*

How to Tell the Ages of Sheep

Birth to 1 week	All milk teeth
12 to 15 months	First pair permanent teeth
24 to 26 months	Second pair permanent teeth
36 to 37 months	Third pair permanent teeth
45 to 48 months	Fourth pair permanent teeth. These teeth wear down and become discolored as age advances.

How to Tell the Ages of Cattle

Birth to 1 month. . .All milk teeth appear (4 pair)
15 to 18 months. . . .First pair permanent incisors appear
2 years. . . . . .First pair permanent incisors leveled
24 to 27 months. . . .Second pair permanent incisors appear
30 months. . . . . .Second pair permanent incisors leveled
33 to 36 months. . . .Third pair permanent incisors appear
42 to 45 months. . . .All incisors level and wearing
3 years. . . . . .First distinct ring appears on horn. Add two years to the number of rings on the horns.

Feeding of Horses for Best Work

It is always advisable to take into consideration the prices of grain and forage in making up rations for horses. Thus, the ration may be changed from year to year in some measure, and certainly the locality will have a lot to do with the kind of ration that will be advisable.

For work horses at light work: From three-fourths of a pound to one pound of grain daily and one and one-fourth to one and one-half pounds of roughage daily per hundred pounds of live weight will be advisable.

For horses at medium work: One pound to one and one-fourth pounds of grain and one pound to one and one-fourth pounds of roughage daily for each hundred pounds of live weight will be satisfactory, and for horses at heavy work one and one-fourth pounds to one and one-half pounds of grain and three-fourths to one pound of roughage daily per hundred pounds live weight will be satisfactory.

Following are some very satisfactory grain rations for your consideration:

For Stallion—Grain, 1 pound to 1⅓ pounds per 100 pounds of live weight daily.

1. Oats, 3 parts by weight
   Bran, 1 part by weight
   Alfalfa, clover or mixed hay
   1 pound per 100 pounds of live weight daily.
2. Oats, 3 parts by weight
   Bran, 1 part by weight
   Corn, 1 part by weight
   Alfalfa, clover, or mixed hay, 1 pound per 100 pounds of live weight daily.

For Brood Mare—

1. Spring and summer ration.
   Proportion of 3–2–1
   75 pounds oats
   50 pounds corn
   25 pounds bran
2. After foaling—Start with bran mash. Increase until on full feed in 10 days.
   6 parts oats by weight
   3 parts bran by weight
   1 part oil meal by weight
   Add corn when mare is put to work

For Colts at Weaning—2 pounds per day; 3 parts oats by weight, 1 part bran by weight, 1 part corn by weight, clean alfalfa, clover or mixed hay.

For Work Horses—General rules, per 100 pounds live weight daily:

Horses at light work: three-fourths to one pound grain and one and one-fourth to one and one-half pounds roughage.

Horses at medium work: One pound to one and one-fourth pounds grain and one pound to one and one-fourth pounds roughage.

Horses at heavy work: One and one-fourth to one and one-half pounds grain and three-fourths to one pound of roughage.

Satisfactory Grain Rations—1. Corn and oats in equal parts. 2. Corn 5 parts, wheat bran 1 part, oil meal one-half part. 3. 3 parts corn, 2 parts oats, one-half part oil meal. 4. Marshall Field & Co., Chicago (1,500 to 1,800 pounds horses)—24 pounds mixture of two-thirds whole oats, one-third corn, 12 pounds of timothy hay. Divide into three equal feeds daily. 5. U. S. Express Company (1,250 to 1,400 pound horses)—18 pounds oats, 16 pounds timothy hay, three equal feeds daily. 6. Substitute for oats: 5 parts corn, 1 part wheat bran, one-half part oil meal.

Question: Will you please inform us as to a suitable ration for baby beeves?

Answer: Rations suggested for fattening out baby beeves, particularly for boys' and girls' club work, which have given very satisfactory results are the following:

1. 3 parts corn
   3 parts oats
   1½ to 2 parts bran
   1 to 2 parts oil meal

2. Equal parts by measure of corn, oats, bran
   1 pound to 1½ pounds oil meal per head daily
   Alfalfa or clover hay
   Corn silage in winter
   Pasture at night in summer
   Salt

Question: How does molasses rank as a feed in fattening livestock?

Answer: Molasses is just about equal, pound for pound, to corn for livestock fattening.

Question: Will you please give me directions for making up mineral mixtures for hogs.

Answer: According to the Iowa State College, following are three mineral mixtures recommended, one or the other of which may be fed in self-feeders at all times:

1. 3 parts glauber salts
   3 parts sal soda
   3 parts copperas
   1 part sulfur
   1 part common salt

2. Complete mixture
   30 parts common salt
   10 parts lime (limestone or air slacked)
   25 parts bone black
   12 parts kainit or wood ashes
   10 parts powdered sulfur
   5.7 parts glauber salts
   5.0 parts epsom salts
   2.0 parts copperas
   0.3 parts potassium iodide

3. Simple mixture
   20 parts salt
   20 parts lime
   40 parts bone meal or bone black

Rations for Poultry That Produce Profits

The Chick—1. First 48 hours, no feed.

2. At 48 hours, buttermilk or sour skim milk followed by regular but light amount of chick feed five times daily.

3. Fourth day, place dry mash before chicks one-half hour in the morning instead of giving chick feed at that time.

4. Fifth day, substitute mash in the middle of afternoon as well as morning.

5. Increase length of time for mash until it is before them constantly at two weeks of age.

6. At three to four weeks, begin giving coarse grain.

7. At eight weeks of age gradually begin working the chicks over toward the egg laying ration.

8. Only feed what scratch feed the chicks will eat readily.

First Eight Weeks—Mash mixture of three pounds wheat bran, two pounds corn meal, one pound dried buttermilk, one-half pound bone meal, and one-quarter pound charcoal.

Scratch Feed—Equal parts by weight of finely cracked corn, cracked wheat, steel-cut oats or oatmeal.

From Nine Weeks On—Gradually change over until the chicks are receiving one of the two laying rations outlined below for egg production.

1. *Scratch Feed*: 100 pounds oats and 200 pounds corn.

2. *Dry Mash*: 200 pounds ground oats, 100 pounds ground corn, and 100 pounds 60 percent tankage.

The following ration is a little more palatable and will give a little better production, but is more costly.

100 pounds wheat bran, 100 pounds flour middlings, 100 pounds ground oats, 100 pounds ground corn, 100 pounds tankage, 20 pounds bone meal, and five pounds common salt.

Curing Meat and Meat Products

Pork: 1. Be sure that all the animal heat is out of the carcass before curing. 2. Never allow meat to freeze before curing or during the curing process.

Sugar Cured Pork—Dry Method: For each 100 pounds of meat, weigh eight pounds of common salt, two and one-half pounds sugar, and two ounces saltpeter. Rub each piece thoroly and pack. At the end of each week break the pack. Rework and throw some of the mixture on exposed parts. Cure hams and shoulders three days to the pound in the piece. Cure bacon two days to the pound. For example, 10 pounds of ham should be cured 30 days and 10 pounds of bacon should be cured 20 days.

Remove from the barrel, brush, and smoke.

Sugar-Cured Pork—Brine Method: For each 100 pounds of meat, use 10 pounds of common salt, three pounds of sugar, two ounces of saltpeter, and four and one-half gallons of water (boiled and cooled). Rub each piece with salt before packing. Allow hams and shoulders to cure four days to the pound. Allow bacon to cure three days to the pound. For example, 10 pounds of ham should be cured 40 days, and 10 pounds of bacon should be cured 30 days.

Plain Salt Pork: Rub each piece with salt and pack in barrel, using 10 pounds of salt and two ounces of saltpeter for every 100 pounds of meat. Allow to remain in salt until used.

Pork Sausage: For 100 pounds of pork trimmings, use two pounds of salt, six ounces of pepper and five to 10 ounces of sage if flavor is desired.

Head Cheese: Cook trimmings from head, feet, tail, heart, and tongue until the meat comes from the bone. Dip off liquid and chop meat fine. Return meat to kettle, season to taste with salt and pepper, cover meat and liquor and cook 15 minutes. Pour mixture into shallow pan, cover with cheesecloth and weight down; when cool slice and serve without further preparation.

Scrapple: Use same meat and cook off bones as in head cheese. Cover finely chopped meat with liquor. Season and stir corn meal in until the mixture is about three-fourths mush and one-fourth meat. Boil thoroly and pour into shallow pans to cool. When cool, slice and serve or fry in fat.

Pickled Pigs' Feet: Clean feet thoroly and boil 4 to 6 hours. Salt when half done. Pack into stone jars and cover with hot spiced vinegar. Serve cold or fry in batter made of eggs, flour, milk, and butter.

Corned Beef: For each 100 pounds of meat, weigh out eight pounds of common salt, three ounces of saltpeter, three pounds of sugar if a sweet taste is desired, five gallons of water (boiled and cooled). Pack meat in barrel with a little salt, pour on brine and weight down. Meat will be ready for use in about three weeks. Leave in solution until used.

Dried Beef—Dry Method: For each 100 pounds of meat use five pounds of salt, three pounds of sugar, and two ounces of saltpeter. Rub the mixture on each piece and pack. Rework and add mixture twice at intervals of three days each. Should be cured in ten to fifteen days. Smoke and dry. Cut very thin when serving.

Dried Beef—Brine Method: For each 100 pounds of meat, use seven pounds of salt, two ounces of saltpeter, and five gallons of water. Rub each piece with salt and pack in barrel. Add above pickle and allow to stand two days to the pound. Remove from the barrel, smoke, and dry.

Tanning Beef Hides or Sheep Pelts

Formula: 10 gallons of soft water, one-half bushel of bran, seven pounds of salt, and two and one-half pounds or one and one-half pints sulphuric acid.

If the hide has previously been salted, it should be soaked and then cleaned and fleshed. After it has been cleaned and fleshed, immerse in a solution of the above mixture for twelve hours. The hide should then be taken out, washed, and dried. While drying the hide, the more it is stretched and worked, the more soft and pliable will be the finished product.

In using this formula for tanning sheep pelts, the sulphuric acid should be reduced to one pint, or the sheep pelt can be tanned in the above mixture after it has been used for a beef hide.

Making Soap: To every six pounds of melted fat, add one pound of lye dissolve in two and one-half pints of water and stir until it resembles honey. Care should be taken that the fat is not too hot when the lye is added. Pour the mixture into wooden or pasteboard boxes or granite pans. When almost hard, cut into squares and allow to ripen a month or so before using, in order that the lye may be completely united with the fat.

By using the fat, that is usually allowed to go to waste in the butchering process, to make soap you will find that a real saving results.

Raising the Dairy Calf and the Dairy Heifer

1. Leave with dam one or two days.
2. Feed from six to 12 pounds warm milk per day.
3. At three weeks of age, start substituting skim milk. Calf should be on skim milk by six weeks of age, getting 12 to 16 pounds per day.
4. Keep pails clean, and feed regularly.
5. Milk can be discontinued at four months, but better if continued until seventh or eighth month.
6. Where milk is not available after calf is six to eight weeks old, the Indiana mixture may be used: Equal parts of oil meal, hominy feed, Red Dog flour, dried blood. One pound of the mixture to eight pounds of water for a six-weeks-old calf.
7. Grain rations for calves: (a) Whole corn, three parts; whole oats, three parts; bran, three parts; oil meal, one part. (b) Whole corn, five parts; whole oats or bran, three parts; oil meal, one part.
8. Feed what they will clean up from one-half pound a day at eight to ten weeks, to a pound a day at six months.
9. All the hay they will eat, clover, or mixture with alsike best.

10. Feed little or no silage up to six or eight months of age.
11. Keep off pasture until at least three months of age.
12. See that they have shade and regular feed on pasture.
13. Plenty of good clean water necessary at all times.
14. Provide salt as soon as they eat hay and grain.

Feeding the Growing Heifer

1. Feed liberally, two or three pounds of grain daily.
2. A good grain mixture, six parts ground corn; four parts ground oats; one part oil meal.
3. Seven to eight pounds of alfalfa or clover hay.
4. What silage they will clean up.
5. Without silage, increase hay and add a pound or more grain per day.
6. Little grain needed the second summer on good pasture.

Grain Mixtures for Milk Production

Sample A—Where silage and alfalfa hay are feed:
600 pounds cracked corn, corn and cob meal, or hominy fed.
200 pounds ground oats, or 400 pounds of either.
200 pounds wheat bran, or 400 pounds of either.
100 pounds cottonseed, oil meal cold process or soy beans.

Sample B—Where silage and clover hay are fed:
600 pounds cracked corn, corn and cob meal, or hominy feed.
200 pounds ground oats, or 400 pounds of either.
200 pounds wheat bran, or 400 pounds of either.
200 pounds cottónseed, oil meal or soy beans.

Sample C—Where silage and mixed hay are fed:
200 pounds cracked corn, corn and cob, or hominy feed.
200 pounds ground oats, or 400 pounds of either.
200 pounds wheat bran, or 400 pounds of either.
100 pounds cottonseed, oil meal or soy beans.

Sample D—Where silage and timothy hay are fed:
200 pounds cracked corn, corn and cob or hominy feed.
200 pounds cracked corn, corn and cob meal, or hominy feed.
200 pounds ground oats, or 400 pounds of either.
200 pounds wheat bran, or 400 pounds of either.
200 pounds oil meal (old process) cottonseed or soy beans.

Note: Where shredded corn or corn stover is fed instead of silage, feed the same rations as given above. Where corn fodder is fed cut down the amount of corn in the ration.

+ + +

The Babcock Test for Butterfat in Milk

Equipment for Testing: One 17.6 c.c. pipette, sample jars (tumblers can be used), one Babcock tester, six Babcock test bottles for milk, one acid measure, one pound sulphuric acid (specific gravity 1.82 to 1.83), one pair dividers, and one water container seven inches deep.

(This equipment may be purchased from any dairy supply house.)

Directions: 1. Obtain a representative and well-mixed sample of the milk.

2. With a 17.6 c.c. pipette measure 17.7 c.c. (18 grams) into a Babcock milk test bottle.

3. Add 17.5 c.c. sulphuric acid and mix milk and acid thoroly.

4. Put the test bottles in Babcock tester and whirl for five minutes at proper speed. (Speed is indicated on tester.)

5. Add hot water (180 degrees) until fat column reaches neck of bottle.

6. Whirl in tester for two minutes.

7. Add hot water until fat column is within the graduated scale on neck of test bottle.

8. Whirl in tester for two minutes.

9. Put test bottles in hot water bath (130-140 degrees F.) for three to ten minutes.

10. Read and record the test in percents and tenths. (Read from extreme top to bottom of fat column.)

11. Clean all utensils.

Testing Skimmed Milk: Sometimes it is desirable to know the amount of fat contained in skimmed milk because it indicates whether or not the separator is doing good work. If separated milk from a hand separator contains more than 0.10 percent of fat, it is quite safe to assume that the machine is not working as well as it should.

The method used for testing of skimmed milk differs but very little from that of whole milk. A specially constructed double-necked bottle with a very narrow body is used in order to read or measure correctly the small amount of fat contained in the skimmed milk. The graduation is made in hundredths of one percent. On account of the comparatively large amount of casein and the small fat globules which separate with greater difficulty in the skimmed milk, we use 20 c.c. of sulphuric acid in place of 17.5 c.c. for the wholemilk.

Testing Cream: 1. Obtain a well-mixed sample of cream.

2. On a sensitive balance weigh nine grams of cream.

3. Add nine cubic centimeters of sulphuric acid.

4. Mix thoroly until mixture becomes dark brown.

5. Add boiling water up to the neck of the bottle.

6. Whirl from eight to 10 minutes.

7. Add boiling water until fat is in graduated scale.

8. Whirl in tester for two minutes.

9. Put test bottles in water bath 140 degrees F. for five minutes.

10. Read test. Measure from bottom of column to middle of top meniscus.

11. Clean all utensils.

Putting Down Butter: When making butter which is to be put down in brine, for best results it should be made from sweet pasteurized cream.

1. Heat sweet cream to 145 degrees F. and keep at this temperature for 25 minutes.

2. Cool cream as low as possible and hold over night.

3. Bring cream to churning temperature 50 degrees to 55 degrees F.

4. Churn and handle in the usual manner.

5. Wrap butter in parchment paper, one to three pounds per package, in a stone crock.

6. Cover with brine, one pound salt for each three pounds of water.

Note: Do not attempt to churn the sweet cream without pasteurizing.

Churning Difficulties: Difficult churnings are often encountered and questions concerning the causes and remedies are frequent.

One of the most common causes is in having the churn too full. Do not have the churn over one-half full so that there is plenty of room for agitation. The speed of the churn should also be carefully observed.

Another reason for difficult churning is that the cream has not ripened enough. Be sure to have cream sour. There may be trouble in accomplishing this in winter. Be sure that the cream is held at 70 degrees F. for from eight to 12 hours in order to give it sufficient time to sour.

A third reason is too low churning temperature. The churning temperature should be so regulated that the butter will come in from 30 to 45 minutes. A poor thermometer is often the cause of a great deal of trouble along this line. In order to determine churning temperature an accurate thermometer should be used. Hot water should not be poured into the cream. If the churning temperature is to be raised, draw out some of the cream and heat by placing the container in warm water and then put this warmed cream in the churn.

Thin cream may cause difficult churnings. Cream for churning should contain from 28 to 32 percent butterfat. With very rich cream there is the danger of over-churning while with thin cream there is difficulty in getting the butter granules gathered.

A large percentage of strippers in the herd may cause trouble. The globules at the end of the lactation period are much smaller and are thus more difficult to collect.

If cream containing 28 to 32 percent butterfat is used and this is properly ripened and brought to the proper churning temperature, the churn filled not more than half full and run at proper speed, there will be very little trouble with difficult churnings.

Whitewash Formulas for Home Use:

1. Slack seven and one-half pounds of rock lime in hot water, mix to a creamy consistency with water. Stir in 15 fluid ounces of Cresol (liquid carbolic acid) at least 95 percent pure, and add enough water to make five gallons. This has disinfecting properties.

2. (Government Whitewash) Slack one-half bushel of rock lime in hot water. Cover to keep in steam. Strain and add one peck of salt dissolved in hot water. Add three pounds of ground rice boiled to a paste and boiling hot, one-half pound of Spanish whiting and a pound of glue previously dissolved over a slow fire. Add five gallons of water to the mixture and allow to stand in a covered vessel for a few days. Apply with brushes or spray.

3. Slack rock lime in water until it is as thin as cream. Add skim milk to thin it and a pound or two of salt to make it adhere to walls. Thirty fluid ounces of Liquor Cresol Compound to each five gallons of whitewash give it disinfecting properties.

Reliable Disinfectants

1. Liquor cresol compound—two to three percent strength.

2. Carbolic acid—two to three percent strength.

3. Creolin.

4. Bichloride of mercury, one part to 1,000 water.

5. Hydrogen peroxide.

6. Boric acid, two to five percent in water—odorless.

Dips for Cattle and Sheep Scab and Mange and Lice of Hogs

1. Lime sulphur solution.

2. Liquor cresol compound, two percent in water.

3. Black leaf forty or nicotine dip.

Fly Sprays

A good fly spray can be made from:
4½ quarts coal tar dip
4½ quarts fish oil
3 quarts coal oil
3 quarts whale oil
1½ quarts oil of tar

Dissolve three pounds laundry soap in water, add the ingredients of the spray and bring the whole up to 30 gallons with lukewarm soft water. This spray will keep off the flies and prevent the coats of the animals from becoming harsh.

The cows should be sprayed twice a day—in the morning after milking and in the afternoon when in the barn for silage or green food. With a portable cart, made from a half barrel by attaching wheels and a spray pump and nozzel, two men can spray 40 cows in five minutes.

Thirty gallons of mixture will spray 40 cows two times a day for 10 days at a cost of one cent per cow per day.

Worm Remedies for Hogs, Sheep, and Poultry

For Hogs: Give in slop or capsules for every pig, two grains of Santonin, one grain of Calomel, one dram of Areca nut ground, and one dram of sodium bicarbonate. This constitutes a dose for a 100-pound pig. For larger or smaller pigs use proportional amounts.

One drop of oil of Chenopodium for each two pounds of live weight of the pig in from one-half to one ounce of castor oil also serves as a vermifuge.

For Sheep: For stomach worms in sheep, dissolve four ounces of copper sulphate in one pint of boiling water and add cold water to make three gallons. Of this one percent solution of the drug, give three ounces to a yearling and half as much to a lamb of three months of age as a drench.

Nicotine solutions in dilution are also sometimes used.

For Poultry: No treatment has been found thoroly satisfactory in the case of gape worms. Mechanical removal may be accomplished by the insertion of a loop of horse hair down the windpipe and the rotation of the loop in a manner to dislodge the worms from the wall and entangle them in the hair which is then withdrawn.

Wire extractors made by commercial firms are used in the same manner. Prevention is best, however. Young chicks should be raised entirely separate from turkeys and areas ranged by turkeys. If gape worms have been present in the locality, select dry sandy soil for the runs for chicks, keep chicks shut up until after dew is off the ground.

Large Round Worms—Rotate poultry runs. For mass treatment of birds, add to the mash, two percent by weight of tobacco dust containing at least 1.5 percent of nicotine, and feed this mixture to the flock for a period of three or four weeks. The treatment may be repeated at three week intervals as often as necessary.

Tuberculosis of Poultry: The symptoms are gradual loss of flesh, loss of lustre of feathers, paleness about the head, often diarrhea, and lameness, weakness with inability to walk, prostration, and death. Lesions are commonly found thruout the liver, spleen, and walls of the intestines. These lesions are yellowish white, often hard and spherical nodules varying in size from those too small to be seen up to three-fourths of an inch or more in diameter.

The organism causing this disease is resistant to disinfectant but it is easily killed by heat, air, light, or drying. It is best to sell all chickens that are seemingly well to some dealer who will kill and examine them, discarding those affected and selling the healthy chickens for food. Valuable birds may be tested by the intradermal tuberculin test. Install rigid sanitary measures.

Raise young chickens on uninfected ground and see that old yards and runs are plowed up. Provide ample ventilation in poultry houses, avoiding draft by all means, as well as dampness. Good nourishing rations and the most careful sanitation will hold the disease in check.

How to Rid Your Farm of Rodents

Ground Squirrels: There are two species of ground squirrels very commonly found in the state, the 13-lined and the gray. Both cause serious injury to corn, melons, etc., by digging out the seed. The following bait spread out in the spring has proved very successful.

Mix one tablespoonful of laundry starch in one-half teacup of cold water, and stir it into one-half pint of boiling water to make a thin, clear mucilage. Mix one ounce of powdered strychnine with one ounce of powdered bicarbonate of soda, and stir the mixture into the hot starch, making a smooth creamy paste free from lumps. Stir in one-fourth pint of heavy corn sirup and one tablespoonful of glycerin, and finally, one scant teaspoon of saccharin. Apply to 20 quarts of clean oats and mix thoroly to coat every kernel.

Pocket Gophers: Pocket gophers are on the increase in the state and cause a good deal of damage in some of the western counties. They are especially bad in alfalfa fields. One gopher will throw up enough mounds to seriously interfere with mowing. Neighborhood co-operation is essential in successful pocket-gopher control. The following poison placed in the open tunnels kills them in large numbers.

Cut sweet potatoes or parsnips into one-half inch cubes. Wash and drain and place in a metal pan. Slowly sift over the baits one-eighth ounce of powdered strychnine (alkaloid) and one-tenth as much saccharin (well shaken or ground together in mortar). Stir to distribute the poison evenly. Drop one or two baits in each tunnel. Trapping can be used when the gophers are not present in large numbers.

Rats: For poisoning rats, barium carbonate, a tasteless and odorless powder, is recommended. It should be mixed with the bait at the rate of one part poison to four parts bait. Three different baits should be chosen, using one which the rats are not getting—meats, grains, and vegetables. Of the meats, hamburger, liver, or fish is good. Of the grains, flour, corn meal, bread or some of the breakfast foods will do. Of the vegetables, lettuce, carrots, tomatoes, squash, or pumpkin can be used. Take care that domestic animals or children do not get any of the poisoned baits.

Quack Grass is a perennial with long yellowish running "roots." Grain fields should be plowed as soon as the grain is removed, if quack grass is present. If possible, shake out the roots with a fork and burn. The spring toothed harrow with special quack grass teeth has proved very helpful on this job. Plow again in a few weeks and give clean cultivation for the rest of the season. Small patches should be covered with tar paper, with edges overlapping. If a crop is desired, land may be plowed in the spring, then seeded thickly with sorghum, millet or sudan grass.

Canada Thistle may be destroyed by presistent cultivation. The field or at least the patch of Canada Thistle should be plowed and persistent cultivation with the hoe is necessary straight thru July, August, and September. This will usually eliminate the weed. Small patches are sometimes covered with tar paper.

For most weeds there is really no good substitute for clean cultivation as a control measure.

Concrete Work

The proportions of materials which have been found to produce satisfactory results under average conditions are one part cement, two parts of sand (under one-fourth inch) and four parts of coarse aggregate (expressed 1:2:4) for most classes of construction. The following table gives the proportions recommended for various classes of work:

1:2:3 Mixture for: One-course concrete highway, street, or barnyard pavements; one-course floors and walks; roofs; fence posts and for sills and lintels without mortar surface; water troughs and tanks.

1:2:4 Mixture for: Reinforced concrete floors, beams and columns; large engine foundations; work subject to vibration.

1:2½:4 Mixture for: Base of two-course street and highway pavements; building walls above foundation; silo walls. Backing of concrete block and similar cement products.

1:3:5 Mixture for: Supporting walls and foundations; small engine foundations; base of sidewalks and two-course floors; mass concrete footings, etc.

Mortar

1:½ Mixture for: Wearing course of two-course floors.

1:2 Mixture for: Scratch coat of exterior plaster; facing blocks and similar cement products; wearing course of two-course walks, street and highway pavements.

1:2½ Mixture for: Finish coat of exterior plaster; fenceposts when coarse aggregate is not used.

1:3 Mixture for: Concrete blocks when coarse aggregate is not used. Cement drain tile when coarse aggregate is not used.

The Chick: Quantities of sand and pebbles or stone required for a one-bag batch of mortar or concrete, and volume of resulting mortar or concrete.

Materials for One-bag Batch

Proportions	Cement Sacks	Sand cu. ft.	Pebbles or Stone cu. ft.	Volume of resulting mixture cu. ft.
1:2	1	2	–	2.1
1:2½	1	2½	–	2.5
1:3	1	3	–	2.8
1:2:3	1	2	3	3.9
1:2:4	1	2	4	4.5
1:2½:4	1	2½	4	4.8
1:3:5	1	3	5	5.8

1 sack cement = 1 cu. ft. (approx.)
4 sacks cement = 1 bbl.

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Breeding Gestation Table

Date Of Service	Date Animal Due to Give Birth			
	Mare 340 Days	Cow 283 Days	Sow 113 Days	Ewe 148 Days
January 1	December. 6	October 10	April 23	May 28
11	16	20	May 3	June 7
21	26	30	13	17
31	January 5	November 9	23	27
February 10	15	19	June 2	July 7
20	25	29	12	17
March 2	February 4	December 9	22	27
12	14	19	July 2	August 6
22	24	29	12	16
April 1	March 6	January 8	22	26
11	16	18	August 1	September 5
21	26	28	11	15
May 1	April 5	February 7	21	25
11	15	17	31	October 5
21	25	27	September 10	15
31	May 5	March. 9	20	25
June 10	15	19	30	November 4
20	25	29	October 10	14
30	June 4	April 8	20	24
July 10	14	18	30	December 4
20	24	28	November 9	14
30	July 4	May 8	19	24
August 9	14	18	29	January 3
19	24	28	December 9	13
29	August 3	June 7	19	23
September 8	13	17	29	February 2
18	23	27	January 8	12
28	September 2	July 7	18	22
October 8	12	17	28	March 4
18	22	27	February 7	14
28	October 2	August 6	17	24
November 7	12	16	27	April 3
17	22	26	March 9	13
27	November 1	September 5	19	23
December 7	11	15	29	May 3
17	21	25	April 8	13
27	December 1	October 5	18	23

Seed Treatment Chart for Grains and Vegetables

Crop	Disease Controlled	Treatment
Barley	Loose smut	Fan thoroly. Soak seed 4 hours in cold water, then soak 12 minutes in water at 129 degrees F. and dry.
	Stripe disease Covered smut	(a) Add 1 pint of formaldehyde to 15 gallons of water. Heat to 122 degrees F. Soak seed 2 minutes and dry. (b) Soak seed 3 hours in formaldehyde solution, 1 pint in 30 gallons of water.
Flax	Wilt	Sprinkle with formaldehyde solution, 1 pint in 40 gallons of water on 80 bushels of grain. Shovel or rake the seed continuously until dry.
Millet	Smut	Soak seed 2 hours in formaldehyde solution, 1 pint in 45 gallons of water.
Oats	Loose smut. Covered smut. Halo leaf spot.	Fan thoroly. Add 1 pint of formaldehyde to 10 gallons of water and sprinkle on 80 bushels. Cover for 2 hours.
Rye	Ergot	Fan thoroly. Add 40 pounds of salt to 25 gallons of water. Soak seed and skim off ergot kernels. Wash in clear water before seeding and dry.
	Stem smut	Add 1 pint formaldehyde to 40 gallons of water. Sprinkle on 50 bushels grain, cover for 2 hours and sow as soon as possible.
Wheat	Bunt, scab	Fan thoroly. Add 1 pint formaldehyde to 40 gallons of water. Sprinkle on 50 bushels of grain, cover 2 hours and sow as soon as possible.
	Loose smut	Same as for loose smut of barley.

Seed Treatment Chart for Grains and Vegetables

Crop	Disease Controlled	Treatment
Sorghum	Kernel smut	Add 1 pint formaldehyde to 30 gallons of water. Soak seed one hour and dry.
Cabbage	Blackleg, black rot	Add 1 ounce of corrosive sublimate in 8 gallons of water. Soak seed 20 minutes.
Cucumbers and Muskmelons	Angular leaf spot	Use same solution as for cabbage. Soak 10 minutes.
Eggplant	Leaf spot and fruit rot	Add ¼ pint formaldehyde to 10 gallons of water. Soak seed 10 minutes and dry.
Potatoes	Scab, black scurf, blackleg, and other surface borne diseases	1. Hot dip. Add 1 pint formaldehyde to 15 gallons of water. Heat to 125 degrees F. and soak 3 minutes. Cover 1 hour. 2. Cold treatment. Add 1 pint formaldehyde to 30 gallons of water, soak seed 2 hours and dry. 3. Corrosive sublimate. Add 4 ounces of corrosive sublimate to 30 gallons of water, soak 1½ hours and dry.
Sweet Potatoes	Black rot, wilt	Add 4 ounces of corrosive sublimate to 30 gallons of water. Soak seed 10 minutes, wash and bed at once. After each 10 bushels, add ½ ounce of corrosive sublimate until 50 bushels have been treated. If more need to be treated, make up new solution.

Note: These two charts are as recommended by Iowa State College, Ames, Iowa.

To control bean and pea weevils, avoid planting weevily seed. Harvest the beans before the pods open. Fumigate with carbon disulphide, 1 teaspoonful per bushel, and remember the highly inflammable and explosive, as well as suffocating, nature of this product.

WHAT IS NEW IN

FARMING

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Ground Wheat vs. Corn. The pigs at the Nebraska Experiment Station gained 1.49 pounds daily on a ration of ground wheat and tankage. They required 377 pounds of wheat and 25 pounds of tankage for each 100 pounds of gain. A check lot fed corn and tankage gained 1.29 pounds daily and required 403 pounds of corn and 43 pounds of tankage for each 100 pounds of gain.

Minerals for Hogs. In recent Indiana tests a ration of corn, soybeans, minerals and legume pasture was found to be capable of fattening March-farrowed pigs to a weight of from 200 to 220 pounds in time for the September market. When the minerals were omitted from the ration these weights were not usually obtained until October. It was found that one pound of soybeans supplemented with minerals was equal to a pound of 60 percent tankage.

Meat-Scrap for Poultry. Poultry feeding investigations in Indiana indicate that a ration made up of yellow corn, wheat bran, middlings, bonemeal, salt, and codliver oil, and containing 4.5 percent meat-scrap protein was fairly satisfactory for growing pullets from 10 weeks to maturity. When the ration contained 7.5 percent meat-scrap protein a more uniform growth was obtained. There appeared to be some advantage in feeding a ration high in protein during the first 10 weeks to give the chicks a good start.

Mineral Supplements for Dairy Cattle. The need for mineral supplements for dairy cattle has been greatly exaggerated according to recent Michigan tests. These studies showed further that cattle are able to utilize calcium from their feed more efficiently than was formerly believed. Raw rock phosphate in the mineral proved to be very detrimental on account of the flourine content.

Cotton Seed Meal for Steers. Feeding tests in Ohio covering a 3-year period showed that steers fed a full ration of corn silage together with about 2 pounds of cottonseed meal daily and small amount of mixed hay, produced average gains of 668 pounds per acre of corn in the silo. In contrast to this, during the first year a lot of steers, which were fed shelled corn together with similar amounts of cottonseed meal, hay, and liberal allotments of corn stover, produced 372 pounds of gain per acre. The next year a check lot fed a half ration of silage together with about a half ration of shelled corn and similar amounts of cottonseed meal, hay, and stover gained 531 pounds per acre of corn fed. The third year the check lot was given a full allowance of corn silage together with shelled corn and hay without a protein concentrate. The gains were 496 pounds per acre.

Time to Cut Soybean Hay. Feeding tests with soybean hay for dairy cattle in Illinois indicate that the best time to cut the feed is just as the seeds are ripening. Five different cuttings were made, the first on July 31 when the beans were in full blossom, the second on August 13 when the pods were forming, the third on August 27 when the pods were filled, the fourth on September 9 when the seed was ripening, and the fifth on September 17 when the seed was ripe and the leaves were falling. The fourth cutting showed the highest yield of protein per acre tho it did not give quite as much total hay as the third cutting. The calves when fed on the fourth cutting made as high a daily gain as those on any other and more than those on the second and fifth cuttings.

Protein Concentrates for Steers. The addition of a protein concentrate to the ration for fattening steers greatly increased the returns per acre of corn fed to steers in recent Ohio

tests. Both lots of 12 steers each were given a basal ration of corn silage and sweet clover hay. In addition, lot 1 received 2 pounds of cottonseed meal, and lot 2 a like amount of shelled corn. Lot 1 gained 2.47 pounds per head daily and lot 2 gained 2.06 pounds per day. Lot 1 returned 541 pounds of beef and 19 pounds of pork, while lot 2 returned 496 pounds of beef and 28 pounds of pork per acre of the corn fed. The return per acre of the corn used, including the pork produced, was $22.15 in the case of lot 1 and $16.50 for lot 2. The steers in lot 1 showed higher dressing percentage than those in lot 2.

Barley for Beef Calves. In Michigan feeding tests with beef calves, barley and corn proved themselves quite superior to oats. Three lots of calves were used. Each lot received linseed meal, corn silage, and alfalfa hay. In addition, lot one received ground barley, lot two shelled corn, and lot three ground oats. The barley-fed group showed a feed cost per 100 pounds of gain of $9. In the corn-fed group it cost $9.09 per 100 pounds of gain, while in the oat-fed group the cost per 100 pounds of gain was $9.65. No charge was made for grinding the oats and barley. If this had been done the corn-fed group would have shown the greatest profit.

Tankage for Hogs. Adding tankage to a ration of shelled corn for pigs on rape pasture increased the rate of gain and decreased the amount of feed required per unit of gain. Pigs fed barley alone gained faster and more economically than pigs fed shelled corn alone. Ground barley alone produced more rapid and economical gains than a ration of ground barley and ground oats. Adding ground oats to a shelled corn ration increased the rate of gain and lowered the feed requirements per unit of gain. The addition of tankage in all cases increased the efficiency of gains.

Corn, Effect of Late Planting. Over a period of 20 years it has been found in studying corn produced at the Ohio Experiment Station that the average reduction in yield due to late planting has been about 5 percent for a delay of 10 days after the optimum planting date. For a delay of 20 days after this time, the reduction in yield has been about 20 percent, and for a delay of 30 days, the reduction has amounted to about 40 percent. When late planting becomes necessary, earlier yielding varieties should be used.

Sudan Grass for Pasture. Sudan grass will carry more cows per acre and consequently produce more milk and butterfat per acre per day than either alfalfa or sweet clover, according to a five-year experiment conducted at the South Dakota State College. Consideration must be given, however, to the fact that sudan is a short-season pasture crop. Further results indicate that sweet clover ranks slightly above alfalfa in the number of cow days and in the amount of milk and butterfat produced per acre. From the standpoint of total digestible food per acre, sweet clover ranked first, alfalfa second, and sudan grass third.

Protein for Dairy Cattle. New York tests where dairy rations of 16 percent protein, 20 percent protein, and 24 percent protein were compared, seemed to indicate that the 16 percent protein was practically as satisfactory as either of the other two rations where legume hay and silage were used as roughage.

Barley for Feed and Malting. Because barley varieties differ sharply in quality for malting, and thus in market price, the Minnesota Agricultural Experiment Station recommends that growers recognize two distinct types of barley—one for market and one for feed—and therefore select a variety suited to the use intended for the crop.

Velvet and other varieties suitable for malting now command premiums of from 10 to 15 cents a bushel over other varieties, such as Trebi, that are unsatisfactory for malting or pearling. When prices were higher the difference amounted to 20 cents or more. In view of this discrimination, no farmer can afford to market a barley of low malting quality.

On the other hand, some of the poor malting varieties are equal in feeding value to the good malters and yield higher. Minnesota trials for several years have demonstrated that both Glabron and Trebi outyield Velvet and Improved Manchuria and hence have an advantage for the farmer who raises feed barley. Glabron has yielded 7 percent more than Manchuria, and Trebi 19 percent more. In any barley growing section similar differences will be found among the varieties adapted.

The three varieties named are of wide adaptation. Velvet and Glabron are both smooth-awned, but Glabron is low in malting quality. Trebi yields higher than Glabron, but is rough-awned and weak-strawed. Glabron is stiff-strawed and stands up well.

There has been a feeling that Trebi is inferior in feeding value to other varieties, but this has been disproved by feeding experiments at the Minnesota, North Dakota, and South Dakota stations. The Minnesota results showed that exactly the same amounts of Trebi and Manchuria were required to produce 100 pounds gain in pigs. The pigs fed Trebi ate somewhat less per day than those on Manchuria and made correspondingly slower gains, but not enough slower to offset Trebi's larger yields which make its cost 4 to 5 cents a bushel less than that of other varieties.—Harold L. Harris, Minnesota.

Mixed Feed for Steer Calves. In recent Missouri tests three lots of steer calves ran with their dams on bluegrass pasture and were self-fed different grain rations in creeps until weaning time, when they were placed in separate dry lots and the same respective grain rations continued for a 196-day feeding period. The first lot received shelled corn alone. The second lot received 8 parts shelled corn and 1 part cottonseed cake. The third lot received 2 parts shelled corn and 1 part oats. Alfalfa hay, corn, and cane silage were used as roughage. The lot receiving cottonseed cake and corn made greater gains with a little less total feed consumption. The selling price was also 50 cents per 100 pounds higher than the lot receiving corn alone. The lot receiving corn and oats made about the same gain as did the lot receiving corn alone, but sold about 25 cents per 100 higher.

Dust Treatment for Seed Potatoes. In field tests at the New York Experiment Station it was found that some chemicals applied to cut seed potatoes promoted decay. Sulphur and in some cases, gypsum, reduced stands and yields where the seed was cut, treated, and stored for 3 to 4 weeks. One of the best and most economical dusts used for treatment was found to consist of equal parts by weight of flowers of sulphur and hydrated lime. This dust, sifted on the cut seed at the rate of 6 to 7 ounces per bushel, facilitated the formation of a tough protective layer over the cut surfaces. Potatoes cut and treated from 3 to 4 weeks before planting were benefited by this treatment.

Bang Disease Transmitted Through Abrasions. Recent studies in the United States Department of Agriculture have shown that Bang disease is regularly transmitted to pregnant cows by placing the germs on the mucous membrane of the eye and on scratches of the skin. These findings indicate that the eye and skin abrasions may be important avenues of entry for the disease along with the digestive tract.

New Chemical Treatment for Seed. A new seed treatment chemical, ethyl-mercury-chloride, increased oat yields more than 12 bushels an acre and wheat yields almost 9 bushels when used for treating the seed to control disease, according to results from tests at the Illinois Experiment Station. The results are an average of three years' investigation. The new chemical is a dust somewhat more expensive than disinfectants previously used. The cost is about 20 to 30 cents an acre for the material alone.

Young Fruit Tree Protection. Young fruit trees have been successfully protected in Minnesota from rabbits, mice, and other rodents by spraying or painting the trunks with sulphonated oil. The Minnesota Experiment Station recommends heating linseed oil to 470 degrees. It is then placed outdoors and one part of sulphur is added to nine parts of oil by weight. The sulphur is slowly sifted into the hot oil, which is kept well stirred. The mixture may be applied with a brush or thinned with turpentine to permit application with an ordinary sprayer.

Alfalfa Wilt. Alfalfa seed lots of Turkestan origin tested so far at the Nebraska Experiment Station are just as resistant or more resistant to alfalfa wilt than is Hardistan, the most nearly wilt-resistant alfalfa produced so far in Nebraska. Turkestan alfalfa varies considerably in desirability for Nebraska conditions. The tests at the Nebraska Experiment Station show that the seed from the following divisions are desirable in the order named: Khiva, Chimbai, Alma Ata, Tashkent. Some of these varieties are winter hardy as well as wilt resistant.—E. L., Nebr.

Disease Control of Corn. Disease control would save one-fifth of the Illinois corn crop lost annually. Sanitation, which means the removal of old corn refuse, must be combined with crop rotation, good soil management, and the development of disease-resistant strains. Seed treatment is also advised together with germination tests for vigor and freedom from disease.

Bang Disease in Fowls. Studies in Michigan indicate that practically all kinds of fowls are susceptible to Bang disease commonly known as contagious abortion in cattle. In some cases the methods of spreading are almost impossible of discovery. It is thought that possibly the disease is spread to a large extent by pigeons and pheasants.

Goiter in Lambs. Goiter in lambs is apparently being overcome in the semigoitrous region of north central Iowa by giving a dose of one-twentieth of a grain of potassium iodide per ewe daily during the breeding and pregnancy periods.

Coccidiosis in Young Chicks. Recent Michigan tests have shown dried buttermilk to be very effective in counteracting the effects of coccidiosis in young chicks.

Tuberculosis in Poultry Transmitted to Cattle and Hogs. E. S. of Nebraska reports that the avian or poultry strain of tuberculosis has been definitely determined to be one cause of tuberculosis in cattle. The avian infection of bovine animals was found only in solitary lymph lesions in many of the cases. This probably is the reason for some misunderstanding of the interpretation of the tuberculin test. There is no evidence available that man contracts avian tuberculosis. On the other hand there is definite proof that tuberculosis in the poultry flock is just as dangerous to both the swine and the cattle herds.

Cornstalk Disease. There is no sure cure for cornstalk disease according to Dr. G. S. Weaver, of South Dakota State College. The cause of the disease is not really known. Treatment of sick animals is ineffective, and the only sure preventative is to keep cattle out of cornstalks.

White Grubs in Pastures. White grubs are much more destructive to pastures which have been heavily grazed and where the fertility has been allowed to run down. Investigations in Wisconsin showed that the average number of grubs per acre on such pastures ran as high as 300,000 compared with about a third that many on adjoining pastures which had not been grazed so heavily. Sweet clover pastures were the most resistant to grubs while red clover, white clover, alfalfa, and bluegrass showed a greater number of grubs in the order named.

Iowin & Komar Wheat—New. The Iowa Agricultural Experiment Station announces two new varieties of wheat, the Iowin and Komar. Iowin is high yielding and a rust-resistant winter variety. Komar, a spring wheat, has given uniformly good results for five years. Spartan barley has shown superior yields at the experiment station, but very mediocre ones in northern Iowa. Bison flax was the variety found most satisfactory in the state.

New Varieties of Wheat Tested. Results on a number of new wheat varieties have recently been received from a number of experiment stations. Michigan reports Bald Rock to be exceptionally resistant to winter-killing. It has a long, stiff straw and no beards. It is a red wheat with good milling qualities. Wheats of the turkey type were outstandingly the best yielders in Illinois during the past season. The five leading varieties were Minturki, Wisconsin Pedigree 2, Minnesota Reliable, Iobred, and Michikof. In North Dakota, Ceres wheat has shown up about as well as Marquis in the baking laboratories. Ceres is more resistant to rust than Marquis, especially for late feedings.

Spartan Barley Best for Malt. Spartan barley, a variety developed at the Michigan State College, has proved to be of superior quality in the manufacture of malt products and much of the Michigan crop is finding a ready sale for such purposes. It has smooth beards and stiff straw, and makes a good nurse crop.

Hull-less Oats. Hull-less oats now yield sufficiently high to justify their more general use as a feed crop in the opinion of plant breeding experts at the University of Illinois. Fowld's Hull-less and Liberty Hull-less are among the most promising varieties tested in Illinois. They do not shatter readily and can be left in the field until dead ripe. There is more danger of hull-less oats heating in the bin than is the case with hulled oats.

Limestone and Inoculation for Alfalfa. The importance of both limestone and inoculation for alfalfa was demonstrated again in recent Iowa tests. On one plot receiving no lime or inoculation, there was no alfalfa. On a plot treated with one ton of limestone and planted with inoculated seed, there was a yield of 1.78 tons per acre of poor quality alfalfa. With a three-ton application of limestone and inoculation, the yield was 2.16 tons of good quality hay. It was also noticeable that the protein content of the hay was much better with large applications of lime and with inoculation.

Liming. Indiana tests have shown that ground limestone and marl prove a most practical liming material. Both in the first year and in succeeding years the 10-mesh and the 50-mesh ground limestone and marl produced as large crop increases as hydrated lime and at a very much lower cost. Fifty-mesh limestone was found no more effective than the 10-mesh.

Fertilizers for Wheat. Recent Nebraska tests show that wheat produced on ground to which no nitrogen fertilizer had been added averaged 12.75 protein content. On similar ground where ammonium sulfate had been added as a fertilizer, the protein content was 13.75, and where sodium nitrate had been added, the protein content was 14.67.

Fertilizer for Strawberries. Fertilizer studies in Ohio with strawberries indicate that the middle of August is the most effective time to apply nitrogen. The highest yield is secured with a split application.

Fertilizer for Corn. Fertilizer produces larger yields of corn when applied in narrow strips on each side of the seed according to all experimental reviewed evidence at the Ohio Experiment Station. A combination of hill and broadcast applications helped produce yields of 66.7 bushels per acre. Broadcast applications alone resulted in yields of 58.3 bushels, and when the fertilizer was applied in the hill the yield was 49.4 bushels.

Kill Cockleburs. A novel plan for killing cockleburs and morning glories, on badly infested corn land has been devised on the agricultural engineering farm at Iowa State College at Ames. The cultivator equipment consists of disks instead of front shovels, which throw the dirt away from the corn, and these are followed by sweeps which scrape the entire surface. Last year it was possible to raise corn with seven man-hours of labor per acre on badly infected land and it is thought that can be reduced next year.

Hatchability of Eggs. There is a marked correlation between the egg weight and the hatchability of eggs. The Michigan Experiment Station has found that chicks from larger eggs also weigh correspondingly more than those from small eggs. These results have led them to recommend that eggs weighing less than 22 ounces per dozen be discarded for hatching purposes. Exposing eggs for 15 minutes daily to ultra-violet rays during the first 19 days of incubation did not improve the hatchability of the eggs. Negative results were also obtained in tests in which eggs were dipped or sprayed with disinfectants.

Barley Tests. Wisconsin pedigree 37 proved to be the highest yielding variety of barley tested by the University of Illinois during the past three years. Like Velvet barley it has a smooth beard. Wisconsin pedigree 38 has proved equally good on a short test. DeKalb ranked next, followed closely by Velvet.

Pure Bred Calves Show Cheaper Gains. Oklahoma tests showed that calves from a purebred sire and a high-grade dam produced gains of 46 cents per hundred cheaper than calves from purebred sires and scrub dams. They also excelled the calves from scrub sires and scrub dams by $1.88 per hundred in feed cost and production gains.

Seed Corn Selection. Smoothly indented, heavy corn kernels are associated with high survival in the resulting plants. The inherently prolific strains are more productive. Slender ears with heavy, smoothly indented kernels produced higher yielding rows. The influence of the

weight of kernels is largely that of causing a greater survival of plants from large kernels. These are the results of Kansas tests.

Worthless Legume Inoculants. Recent tests at the experiment station at Geneva, New York, indicate a wide variation in the quality of legume inoculants on the market. Some samples of this material were found to be worthless while many others were satisfactory. In the selection of commercial materials for this purpose an investigation of the quality is desirable. It is also highly desirable to have the date stamped on the package since inoculating materials lose their value with age.

Finely Ground Limestone Best. Small quantities of finely ground limestone may be just as effective as larger quantities of limestone which is not so finely ground. Experiments in Missouri have shown that as little as 300 pounds of 30-mesh limestone per acre combined with inoculated soil and drilled with clover seed were as effective as 5,000 pounds of 10-mesh limestone which was broadcast. This was true both with red clover and sweet clover. No definite conclusions were drawn but the results indicate that it may be necessary to provide only certain limited areas of limed soil accessible to the clover roots.

Good Fertilizer. Superphosphate proved to be a highly profitable fertilizer in tests conducted by the Purdue Experiment Station near Bedford, Indiana. Without an application of manure it was found that 225 pounds of superphosphate per acre in a four-year rotation produced crop increases of 16.9 bushels of corn, 6.9 bushels of soybeans, 6.8 bushels of wheat, and 1,159 pounds of hay per acre. The total increase was valued at $36.85 at a cost of $5.04 for the fertilizer. Even if manure had been applied it was found that a similar application of $5.04 worth of phosphate produced crop increases of $30.13, showing that manure is not sufficient on this land.

A Good Crop Rotation. Tests in Ohio have shown that the highest annual value for a two-year crop rotation was returned by a rotation of corn and wheat with sweet clover sown in the wheat and plowed under ahead of the corn crop. The return was $44.87. A three-year rotation of corn, wheat, and alfalfa gave the best results and the four-year rotation of corn, corn, wheat, and clover proved most profitable.

Native Lambs Best for Feeding. Nebraska tests in which lambs from a native farm flock of ewes were compared with lambs from western ewes showed a distinct advantage for the native ewes. From the 100 Nebraska-bred ewes 121 lambs averaging 91 pounds in weight were marketed, while the 100 range ewes produced 95 marketable lambs averaging 85 pounds at the end of the same feeding period.

Milking Machines Save. An analysis of 237 Pennsylvania dairy herds showed that milking machines saved more than 19 hours per cow per year. This was equivalent to three-tenths of an hour for every 100 pounds of milk produced.

When to Cut Clover. Clipping red clover during the latter half of August resulted in higher yields the next year than with no clipping. Cutting if after the middle of October was always decidedly injurious. Alfalfa was not injured by the clipping during the latter half of August, but neither did this increase the yield the next year. These are the results of Ohio tests.

Cultivate Alfalfa. Cultivation increased alfalfa production as much as 69.5 percent at the Hettinger substation, North Dakota. A spring tooth harrow was used and largely eliminated pepper grass. The growth of Russian thistles was encouraged, but they did not reach a size sufficient to be a serious menace.

Soil Treatment for Pastures. In pasture studies at the Ohio Experiment Station last year, three methods of soil treatment were used. One lot of 10 acres was top-dressed with nitrogenous fertilizers and five dry cows and five yearling heifers were kept on it continuously. A second lot of 10 acres was divided into two parts and a similar group of cattle was rotated between the two parts every 10 days. The same fertilization treatment was used. A third lot of 20 acres was untreated and a similar group of cattle was kept on it. The first lot produced a total gain of 2,695 pounds of beef, the second 2,515 pounds, and the third lot 2,065 pounds of beef. The average protein content of the grass on the fertilized lots was about 3.5 percent higher than on the unfertilized lot.

Kill Wild Garlic. Wild garlic and wild onions have become a serious pest in many sections. Late fall plowing followed by a spring plowing and a cultivated crop such as corn or soybeans for three years in succession is the method that has proved most effective in Indiana.

Destroy Pocket Gophers. Pocket gophers are quickly destroyed if strychnine-coated sweet potatoes, carrots, or oats are placed in their runways. One-eighth ounce of powdered strychnine dusted over three quarts of sweet potatoes, or carrots cut into pieces two inches long and one-half inch square makes effective bait. One or two batings in a system of 15 or 20 fresh mounds is enough. These are the directions of G. C. Oderkirk, rodent specialist of the United Biological Survey.

Efficiency of Different Pig Litters. Tests to demonstrate the efficiency of different litters of pigs in the use of feeds have shown some striking results at the Wisconsin station. Last year one lot of pigs gained 1.86 pounds per head daily. It required only 360 pounds of feed for each 100 pounds of gain. On the other hand, the least efficient lot averaged only 1.15 pounds of gain per pig daily and required 485 pounds of grain per 100 pounds of gain. The rations were the same. This is another illustration of the need of hog producers to test the pork-producing ability of the strains of hogs which they have and to develop those which will make the maximum use of feed.

Hybrid Sweet Corn Best. Three new hybrid strains of 8-rowed sweet corn have been released by the Minnesota Agricultural Experiment Station. They are primarily adapted for canning purposes, but should also be of value to market gardeners. The hybrids are giving increased yields and show great uniformity in maturity at the canning stage. They are also less susceptible to smut than ordinary Golden Bantam.

Grain Corn Better for Silage. In Illinois tests the grain varieties of corn proved superior to late maturing varieties for silage purposes. While the total weight of the silage was greater from the silage varieties, the actual amount of dry food material was greater from grain varieties.

Kill the Bindweed. Bindweed is considerably worse than Canada thistle or quack grass warns the Minnesota Agricultural Experiment Station. A special study has been made of control methods which are available in Special Bulletin 140, which may be obtained from Bulletin Office, University Farm, St. Paul, Minnesota.

Full Feeding of Pigs. That full-feeding of pigs is more profitable than limited feeding is indicated by recent tests in Ohio, where one lot of pigs was self-fed on rape pasture, and compared with a similar lot which was given a limited feed on rape pasture for 18 weeks and then hand full-fed in dry lot for the balance of the feeding period. The second lot required more feed per unit of gain and returned only $2.69 per acre for the pasture, whereas the full-feed group returned $3.18 per acre.

Full Feeding of Steers. Tests were recently conducted in Kansas to determine the importance of keeping yearling steers on full feed during winter when they were not to be sold until the following fall. One lot was put on full feed at once, while the other lot was limited to five pounds of corn each for 90 days and then full fed. After that time, both lots were full fed. They were appraised at the end of 150 days and again at the end of 225 days. At the end of 150 days, there was $8.23 more profit per head in the full-fed lot. At the end of 225 days there was still $4.47 in favor of the full-fed lot.

Silage. The value of the corn crop as ground shock corn and as silage was compared recently in Ohio steer feeding tests. Both lots of steers received a basal ration of clover hay and cottonseed meal. The first lot received in addition corn silage and the second lot, ground shock corn. The silage-fed group made better daily gains and returned 759 pounds.

Less Grain for Work Horses. Efficient work horses can be developed by feeding less grain than many farmers are inclined to use. At the Missouri Experiment Station it was found that one lot of colts which had a total of 4,238 pounds of grain and 5,723 pounds of hay each, up to the time they were three years old, made just as good work horses as those which had 7,638 pounds of grain and 4,664 pounds of hay. They did not grow quite so fast, and were slower in developing, but there was less difficulty in keeping the colts sound in the feet and in the legs and as work horses they were just as satisfactory as the ones that had more grain.

Alfalfa vs. Rape. In recent Michigan tests it was found that spring pigs produced practically the same gains on rape as on alfalfa pasture and that the same amount of corn was required to produce a unit of gain on each crop. However, pigs on the rape consumed 40 percent more of the protein supplement than those on alfalfa. Other tests at the same station show that pigs on alfalfa pasture made practically the same gain at a lower cost than pigs receiving the same ration plus alfalfa hay in the dry lot.

Grain for Beef Calves. Feeding tests at the Missouri Experiment Station indicate that grain for beef calves is highly profitable One lot of beef calves was allowed to run with the dams and received no extra feed. Another lot was fed grain in creeps. A third lot nursed twice daily and received grain. At weaning time it was found that lot two had paid $30.37 each for $18.40 worth of grain. Lot three had paid $28.07 for $21.87 worth of grain. After weaning, all calves were fed on whole feed for 140 days, at which time lot one brought $65 above feed cost, lot two $91, and lot three, $82.

Corn-Ear-Shelled or Ground. Ohio hog feeding tests indicated that the advantages of shelled corn, either self-fed or hand full-fed, over ear corn were not enough to pay for the cost of shelling. They also indicated that on the basis of feed required per unit of grain, ground corn was worth 3 cents more per bushel than the ear corn. Nothing was gained by wetting the ground corn and feeding it as slop.

Choice Steers. At the Ohio Experiment Station tests on the relative efficiency of three lots of steers were made. These included choice, medium, and common. They were fed a basal ration of 10 pounds of silage, 3 pounds of mixed hay, and 1½ pounds of protein supplement. The choice steers paid 38 cents a bushel for the corn, the medium 43 cents, and the common, 64 cents. These figures of course should not be taken as conclusive for every set of conditions, but they do indicate that the season of the year and the place of marketing are important in determining which grade of cattle is to be fed.

Cotton Seedcake for Beef Calves. In Nebraska tests the addition of from one-half to one pound daily of cottonseed cake to prairie hay increased the profits on beef calves by over $5 per head. It did not pay to feed much more than one pound of cottonseed cake per head, however.

Soy Bean Hay. The Indiana Experiment Station has recently compared early and late cut soybean hay for milk and fat production. Immature soybean hay cut after a growing period of 88 days was compared with matured hay which had a growing period of 109 days. The mature hay proved about 6 percent more effective in milk production.

Dust Treatment of Seed Corn Pays Big. The dust treatment of seed corn does pay, according to results obtained during 1931 in 10 counties in Iowa, involving 120 plots. The average gain per acre was 4 bushels obtained at a cost of 4 cents per acre.

Grasshoppers. Grasshoppers yield to fall plowing, according to North Dakota experiments. Deep plowing will bury the eggs laid during the summer and fall. Shallow plowing or disking will bring the eggs to the surface, where the weather will destroy great numbers of them.

Destroying Weevils Without Danger. A new method of destroying weevils in grains and in beans without incurring danger from fire or explosions is now recommended by the Michigan State College. The new killing agent is propylene dichloride, or a mixture of this material. Grain bins should be as nearly air tight as possible and the grain itself covered with blankets or newspapers. The fumigant is poured directly on the grain under the covering material. Avoid breathing the fumes from this material. If grain bins are more than four feet deep, a pipe should be inserted in the grain to allow some of the fumigant to run below the surface. Keep the granary closed for 48 hours. Grain to be used for seed should be shoveled over several times. Use two pounds of propylene dichloride for each 100 cubic feet of air space. A temperature of 70 degrees is best for fumigation.

Stop Milk Fever Losses. There is no longer any reason for farmers suffering the tremendous losses formerly caused by milk fever. The important discovery recently made by A. C. Ragsdale, C. W. Turner, and H. A. Herman of the Missouri Experiment Station that calcium gluconate injected into the blood stream completely overcomes the trouble without loss in milk flow means much to farmers and dairymen everywhere.

The old treatment was to pump the udder up with air. This involved some danger of infection and usually reduced the milk flow. Later, when it was learned that a lack of calcium in the blood was the cause of milk fever the calcium chloride treatment was introduced, but this involves considerable danger on account of the action of the chlorine.

Calcium gluconate is not injurious. It is injected into the blood stream,

preferably the mammary vein. The equipment used for this injection should be sterilized with boiling water and the skin over the vein should be washed and disinfected before injecting the calcium gluconate into the blood stream.

The solution is prepared by dissolving one teaspoonful of calcium glocoonate in a quart of distilled water or water that has been boiled. The water should be heated to the boiling point and then the calcium gluconate slowly added with the boiling continued for ten minutes to dissolve all material. If a scum forms it should be skimmed off. Then transfer the solution to the injection bottle being sure that there is no undissolved material included and that the entire equipment has been thoroly sterilized.

As soon as the solution has been brought down to body temperature it is ready to use. Then insert the injection needle, release the clamp, and slowly force the calcium gluconate solution into the vein by means of the air bulb. When injecting the needle be very careful to puncture the mammary vein but do not force the needle thru the opposite side. Also be careful to stop the injections before the bottle is entirely empty in order to avoid any possibility of pumping air into the blood stream. It is safer to call a good veterinarian for this operation, altho any careful operator can handle it.

The success of this operation is shown by the fact that not a single cow has been lost from milk fever in the past three years that this plan of treatment has been in use in the University of Missouri herd nor have there been any serious losses in milk flow. If one injection as described above is not sufficient, a second one has never failed to get the desired results. Further information can be secured by writing the dairy department of the University of Missouri at Columbia, Missouri.

Barbless Barley. Wisconsin barbless barley, pedigree 38, is a new hybrid developed at the Wisconsin Agricultural Experiment Station. This hybrid is very resistant to stripe, and is also of high malting quality. Reports of 50 to 60 bushels to the acre have been common. In 1930, 67 farmers of Wisconsin reported an average yield of 52.5 bushels per acre. This variety is four to six days later in maturity than Oderbrucker. Favorable reports on this barley have also been received from Ontario and Alberta, Canada, Illinois, Indiana, Iowa, and Pennsylvania.—B. D. Leith.

New Strawberry. Wisconsin Ambrosia is the name applied to a strawberry developed since 1927 by a Wisconsin fruit grower. The plants grow very large and the extensive root development makes it drought resistant. The fruit is unusually large, of a bright red color, and with prominent seeds. The variety is adapted for heavy soils.

Hybrid Corn Shows Higher Yield. Hybrid corn made nearly one-fifth higher average yields than the open-pollinated strains in approximately 300 yield comparisons conducted in Iowa during 1930. On 136 farms in Jasper County the hybrid outyielded the local grown strains better than an average of nine bushels per acre and outyielded Krug about five bushels per acre.

Illini Soybean. The Illini soybean is the only variety tested at the Iowa Experiment Station over a 15-year period that gives promise of being a better general-purpose bean than the Manchu variety. The Illini yielded an average of 8 percent more seed in tests at the Iowa Station than Manchu and the other common varieties, such as Dunfield and Black Eyebrow in 1928, 1929, and 1930. It has yielded about the same amount of hay as the other varieties.

Glabron Barley. Glabron, which is a smooth-awned barley, showed up unusually well in comparison with common farm varieties in a series of yield trials in 33 Minnesota counties in 1931.

Cabbage. Cabbage resistant to yellows has been developed at the Wisconsin Experiment Station to a point where seed is now generally available to the public. The disease is nationwide and is successfully combated by the use of seed from resistant strains.

Beaver Strawberry Shows Big Yield. A new strawberry that promises much improvement over varieties commonly grown in the north is the Beaver. Most growers report Beaver to be the best variety of strawberry that they ever grew. In addition to being bountiful producers, Beavers hold their shape better than any berry ever tested by the canning companies. Beavers, and also Premiers, outclass the old varieties such as Senator Dunlap and Warfield. In carefully measured row tests with fertilizers, Beavers gave the best results. On one farm, Premiers produced from 151 to 209 quarts to the row compared with yields of 330 to 380 quarts of berries for the Beavers. This is an advantage of 200 crates of berries to the acre in favor of Beavers.—T. L. C., Wisconsin.

Gooseberry. A fruiting branch of the Poorman gooseberry is a good one among the many new kinds and varieties of small fruits tested by the experiment station of the College of Agriculture, University of Illinois. The size and quality of the Poorman berry is so superior to the commonly planted Houghton and Downing that growers should not hesitate to discard the older varieties, in the opinion of Dr. A. S. Colby, in charge of the tests. Illinois obtained the Poorman gooseberry from the Geneva Experiment Station, New York, which in turn obtained it from Utah, where it was originated.

Oat Smut Resistant. A variety of oats so resistant to smut that it is unnecessary to treat the seed oats has been found satisfactory at the Michigan State College and in several sections of that state. This variety is called "Markton." These oats yield well, but the straw is not stiff enough to prevent lodging on heavy soils. It is not recommended where stem rust is at all prevalent.

Bald Rock Wheat Outyields. Bald Rock wheat is a new variety developed in Michigan. It has awnless red chaff and large red kernels. It matures in midseason, is comparatively winter-hardy, and resistant to lodging. Over a period of years this wheat can be expected to outyield the commercial varieties currently grown in the state.

High-Yielding Wilt-Resistant Flax. Redwing flax, a new high yielding wilt-resistant variety developed at the Minnesota Experiment Station, is now being distributed to farmers. It is slightly higher yielding than Buda and matures three or four days earlier than Buda. The flowers are a very light blue.

Katahdin Potatoes. Katahdin, the mosaic-resistant potato variety developed by the United States Department of Agriculture and released a year ago for testing, has proved satisfactory from coast to coast. It is smooth-skinned, with bright color and shallow eyes, and has excellent shape and appearance. It has maintained yields equal or superior to many established varieties. It is not immune to leaf roll and spindle tuber. No seed is yet available for commercial distribution.

Curing Meat. Curing of large pieces of meat is made easier without heavy salting, by the use of an inexpensive brine pump. Brine should be forced

all along the bones, particular attention being given to the joints. Thick cuts should be somewhat stronger than the covering brine. Those who enjoy the flavor of smoked meats may use the commercial smoked salts now available. Dissolve in one gallon of hot water 2¾ pounds of salt (smoked salt if preferred), 8 ounces of sugar, and .5 ounce of saltpeter. Allow this brine to stand overnight to cool, and strain thru a cheesecloth. Inject approximately four pounds of this brine into 100 pounds of meat. This makes an especially fine cure for mutton. While you are experimenting with the various strengths of brine under the pumping system, authorities advise you to cure only a few pieces of meat that way.

Get Most Value From Manure. Manure stored from 60 to 90 days will lose from 30 to 50 percent of its fertility value, according to experimental results announced by the University of Minnesota. So long as manure remains frozen, there is no loss. Spreading it on the fields daily reduces cost of handling to the minimum, and likewise the loss of fertility. The Michigan State College found last year that the plant food in manure produced annually on the average farm would cost $205 if bought in commercial fertilizers. The college advocates the use of commercial fertilizers, but at the same time urges farmers to prevent the plant food elements in barnyard manure from going to waste.

Manure Returned $5.21 Per Acre. During the rotation period ending in 1931, manure applied at a normal rate returned $5.21 an acre annually as an average for all types of soils in experiments conducted by the University of Illinois. It was highly important that manure accumulated during the winter be taken to the field in time for application to the crop the following spring.

Mice Attacks on Orchards. Orchard protection against mice attacks may be obtained for 25 cents an acre thru the use of a formula announced by the New York State College of Agriculture. Mix one tablespoon gloss starch in one-half teacup cold water and stir this into three-fourths of a pint of boiling water to make a thin, clear paste. Mix one ounce of powdered strychnine with one ounce of baking soda and stir the mixture into the starch paste to make a creamy mass, free of lumps. Add one-fourth pint of heavy corn sirup and one tablespoon glycerine. Apply to 12 quarts of wheat and mix thoroly so each kernel is coated.

Pick a Hen That Will Produce. Neither the shape of a hen's body nor the shape of her head bears any relation to her egg production, claims the United States Department of Agriculture, after making actual measurements of hens according to the assumptions on which poultrymen have been judging and culling. Apparently a hen's ability to lay depends on her egg-laying ancestry. Effective selection of laying hens may be based on the following points, which are better guides than conformation:

1. Earliness of maturity, indicated by an age of not more than 200 days at the laying of first egg.
2. Rate of egg production recorded by trapnesting or indicated by bleaching of beak and shanks in yellow-skinned fowls.
3. Absence of broodiness.
4. Persistence of production, indicated by laying in August and September at the end of the first laying year.

Growing Apples. Costs of growing a bushel of apples in orchards needing nitrogen have been reduced 22 percent, or more than one-fifth, by applying nitrate of soda or ammonium sulphate two or three weeks before the trees were in full bloom, according to experiments conducted by the University of Illinois.

Manure Best Mulch for Shelter Trees. The use of hay or straw mulch about shelter-belt trees at Mandan, North Dakota, proved a detriment because it kept light rainfall from reaching the soil. It also encouraged the roots to grow close to the surface of the ground. A coating of 2 or 3 inches of well-rotted stable manure or chaff is recommended for fall. Such covering should be worked into the soil in the spring.

Best Corn for Silage. Varieties of corn especially suited for silage have been tested for several years in Ohio. Lancaster Sure Crop has proved best for the northeastern section. Other varieties nearly as satisfactory are Big Golden, and certain strains of Sweepstakes. Where silo filling may be delayed, two varieties are frequently planted. Late maturing varieties recommended to follow Lancaster Sure Crop are Old Virginia and Blue Ridge.

Good Rat Poison. Red squill kills rats and mice, but is relatively harmless to cats, dogs, and other animals. At a cost of 50 cents a farm, practically all rats can be cleaned out of the community by this method, according to G. C. Oderkirk, rodent control specialist, University of Illinois. The red squill is mixed with suitable baits and distributed so that everyone in the community may use it the same day.

Superphosphate Returned $38.85 for $5.04. Recent Indiana tests showed that land receiving lime, manure, and 450 pounds of 16 percent superphosphate per acre averaged 53 bushels of corn, 15 bushels of wheat, and 1½ tons of hay per acre in a three-year rotation. Similar soil untreated averaged 21 bushels of corn, 4 bushels of wheat, and a half ton of hay. An expenditure of $5.04 per acre per rotation for superphosphate gave a return of $38.85 per acre.

Where Not to Cultivate Alfalfa. A three-year study in Iowa indicates that it is not advisable to cultivate alfalfa in section where bacterial wilt is prevalent. Cultivation seems to spread the wilt organisms and also to injure the plants, giving these organisms an opportunity to enter.

Inoculate Soybeans. Inoculated plots of soybeans grown on acid soil yielded twice as much hay and three times as much seed as uninoculated beans. The protein content of the seed was increased by one-third by the inoculation. Increases in yield and in protein content of soybeans with inoculation was even greater when the soils had been limed enough to neutralize the acidity. The Illini soybean developed at the Illinois Agricultural Station appeared superior to any variety grown currently. These are the results of soybean studies in Iowa.

Hand vs. Machine Corn Picking. Investigations in Indiana on the cost of picking and cribbing corn on 60 farms showed that when the corn was hand husked it required 4.75 hours per acre and cost 10 cents a bushel or $3.98 per acre. Where one-row corn pickers were used 2.83 hours per acre were required and the cost was 8.8 cents a bushel or $3.41 per acre. Where two-row pickers were used 2.06 hours per acre were required and the cost was 5.9 cents per bushel or $2.42 per acre.

Where Not to Raise Lespedeza. A warning against attempting to raise lespedeza in areas where it is not adapted has just been issued by the United States Department of Agriculture. Where red clover, alfalfa, or sweet clover grows well without heavy expense for liming, lespedeza is not recommended. It is roughly limited to an area south of the Potomac and Ohio Rivers and east of the eastern portion of Kansas, Oklahoma, and Texas.

Grinding Roughage. Extensive Kansas tests indicate that the cost of grinding roughage ranged from 98.6 cents to $1.39 per ton. Other studies indicated that running the silage cutter at high speeds is a waste of power. A speed of 500 to 600 revolutions per minute was the most economical.

Hilldrop Method Corn Fertilizing. Fertilizing corn by the hilldrop method weakened the root anchorage and cut the yield an average of eight bushels an acre, in tests conducted recently by the University of Illinois, in Urbana.

Small Turkeys in Demand. Demand is steadily increasing for smaller turkeys. One of the largest chain store buyers states that three-fourths of the consumer demand is for 8 to 12-pound turkeys. Last year these smaller turkeys commanded a premium of 3 to 4 cents a pound over the exceedingly large ones.

Evergreen Windbreaks. Wind velocities about Indiana farmsteads are reduced from one-half to two-thirds by properly planted evergreen windbreaks, according to a continuous record kept for seven months by Purdue University.

Sudan Grass for Pasture. Comparisons of emergency pasture crops under drought conditions in Michigan were quite favorable to Sudan grass. In 1929 Sudan grass furnished sheep more than twice as much pasturage as rape. In 1930, Sudan grass proved superior to first year sweet clover, to first year alfalfa, and to rape, both broadcast and drilled. This was true both for dairy cattle and sheep pasturage.

New Use for Cream. Sweet cream almost as rich as butter and closely resembling butter is now possible on the farm. A separator attachment invented by one of the leading separator companies skims cream so rich that it readily takes the place of butter.

To Fill Silo Without Tamping. To obtain an even distribution of silage, Fred C. Hubbard of Champaign County, Illinois, has hit upon a simple but effective device. An ordinary pitchfork is bound alongside the down pipe of the silo filler, the tines pointing downward and extending perhaps a foot or sixteen inches below the end of the spout. Just above the tines a pole is attached to the fork by means of a snap, ring, wire, clevis, or other convenient means. This pole extends to the removal doors of the silo, from which one man directs the stream of fodder about as necessary. No tamping is done. Hubbard has used this method six years and says that the resulting silage has been as good as that tamped by as many as five men. Similar results are reported from time to time by other farmers. —Frank M. Chase, Illinois.

Limestone. Tests on the various degrees of fineness in ground limestone at the Cornell Experiment Station indicate that if the stone is ground so that all particles pass thru a 10-mesh sieve, this is as fine as it is profitable to grind. This, of course, means that there will be with the coarser limestone a considerable portion of the material much finer than the 10-mesh size.

Pasture—How Much? Farms in Indiana on which half the land was pastured and half was in crops were found to be more profitable than those farms which devoted only one-fourth of the land to pasture and three-fourths to crops. Pasture furnished feed to livestock at one-fourth the cost of other feed.

Ceres Wheat Wins. In five-year tests covering three different points in South Dakota, Ceres wheat proved the outstanding hard red spring wheat. It yielded from 16 to 20 percent more than Marquis, which indicates that it will be recommended to replace Marquis wheat in that section.

Kill Weeds in Fall With Sodium Chlorate. Tests indicate that sodium chlorate may be applied effectively to noxious weeds in late September or in October. The chlorate may be sprayed on as a solution or broadcast evenly over the soil as one would sow small seed. Small patches of bindweed or other perennial weed pests difficult to eradicate by cultivation, can be killed out at a small cost by the use of this chemical. Sodium chlorate, unless carefully used, is dangerous to handle from the standpoint of fires. Care should be taken in applying it to avoid putting it too near buildings. —P. H. S., Nebr.

Native Corn Best for Silage. Varieties of corn, standard to a locality, are preferable to later, rank-growing varieties that will not reach at least the dough stage of maturity by silo filling time, states the Southeast Minnesota Experiment Station at Waseca. Recently tests were made with Silver King, a standard variety, and corn from Virginia. The immature corn makes a much more acid silage likely to produce scours.—H. L. H., Minnesota.

Tankage Saves Corn. Recent tests in Michigan showed that for the pigs fed grain on pasture 100 pounds of tankage saved 452 pounds of corn. Tankage feeding also enabled the pigs to reach market weight from 9 to 19 days earlier than when no tankage was fed to them.

Coccidiosis Lives in Soil Less Than a Year. Coccidiosis does not live more than a year in the soil. This view is supported by experiments at Storrs, Connecticut, in which material taken from infested poultry ranges was fed to chicks. Material fed 49 days after the old birds had been taken off the range produced coccidiosis in the chicks but that fed 81 days after the old birds were taken off did not. Soil from heavily infested experimental plots produced infestations in chicks up to 197 days after the old birds were taken off. Washing eggs before incubation failed to infect the chicks. Also dipping eggs in a solution of coccidial oocysts and then washing the eggs failed to infect the chicks. These results indicate that coccidiosis is not transmitted thru the egg.

Seed End of Potatoes Best for Planting. Seed pieces from the tip or seed end of potato tubers produced more vigorous plants and greater yields than pieces taken from the stem end of the same tubers, according to results obtained at the New York Experiment Station.

Inoculate for Legumes. The New York Experiment Station finds a large variety of good inoculants on the market. It advises the use of inoculants where the legume has not been grown on the land for several years, or even for two years. You'll find the application is easily made.

Legumes Two Years in Rotations. Legumes used in rotations with corn, oats, and wheat, alfalfa and sweet clover have about the same ability to increase crop yields when allowed to remain on the soil for two years, recent experiments at the Kansas station show. Sweet clover left for two years is considerably more effective than when left for only one year. Where soybeans and sweet clover have been grown for only one year, the comparison indicates clover is superior in ability to the increase yields of crops that follow.—F. E. Charles, Kansas.

ALL AROUND THE

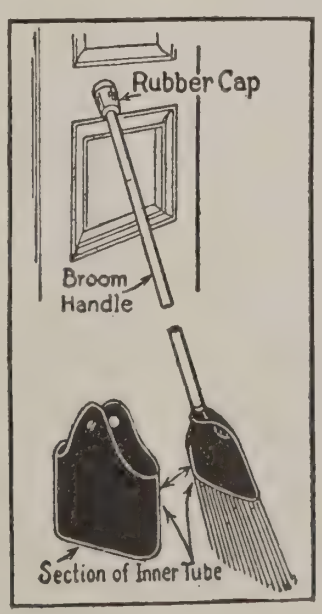
FARM

Helpful Hints for Women

To Separate Eggs. To separate eggs, I break them in a funnel. The white runs thru into a dish while the yolk remains behind. This saves a great deal of time because a speck of yolk left in the white will prevent it from whipping stiff.—E. C. H., Iowa.

To Save Brooms. Here are two stunts that can be done to make the house or shop broom work better and last longer. Get a rubber cap of the kind used on the ends of crutches at almost any drug store and fit this to the top of the broom handle. Then when leaned against a door or wall, it will not slide and fall down, nor will it mark papered walls, varnished woodwork, or anything else with which it comes in contact.

The working end is improved with a section of inner tube, selected so as to be a snug fit around the top of the broom part, and with the two upper ends shaped so as to have a hole to go over the handle. This is put on from the top with the two ears of the rubber lapping over one another as shown. In place, this protects the whole upper part when sweeping under low furniture, or anything low, and by gripping the broom straw more firmly, makes the use of it more effective for other sweeping. By saving these shoulders the broom lasts much longer and looks better during its life.—M. A. H., New York.



Scalloped Edges. Crepe paper can be given an attractive scalloped edge very easily. Cut out a strip of the paper of the desired width. Lay it on a smooth surface and place the first and second fingers of the left hand three-fourths of an inch apart near one edge of the strip. Place the forefinger of the other hand between these two fingers and on the edge of the paper. Press down firmly and pull that finger back across the strip. This leaves a scallop. Repeat the entire length of the strip. This makes a neat decoration for cupboard shelves and it can be used in many other places, too.—Mrs. E. A. S., Indiana.

Easy Way to Burn Paper. Newspapers accumulate around a home much too quickly unless an easy method to destroy them is provided. Instead of waiting for a big accumulation, then lighting a big bonfire I now burn them every few days. I took a steel barrel, cut the head out, and it proves to be a cheap and efficient incinerator. The slight draft caused by the fire causes the fire to burn slowly, thus heating the barrel to a temperature above the kindling point of paper. This insures burning the papers completely. In the fall we use it to burn leaves and garden weeds. During threatening weather the barrel is inverted so as to exclude any rain or snow which might fall.—D. L. S., Pennsylvania.

To Hold Bottles. To prevent bottles from falling off a shelf, tack a rubber suction cup to the wall behind the position for each bottle and push the bottle against it with slight pressure. When needed the bottle can be removed, but it will not fall off the shelf from a little bump or jar.—C. T. S., Wisconsin.

Use Wire Brush. A small inexpensive wire bristle brush can be used to advantage around the home. It may be used to remove the lint and threads from the brush of either a hand or electric sweeper, for the lint can be burned from the wire brush without injuring the brush. It is useful, also, in removing paint. It comes in handy in cleaning caked dirt and oil from automobile springs prior to oiling.—F. B. B., Pennsylvania.

Painted Bulbs. An easy, quick way to soften a glaring electric light is to paint the bulb with water color. If possible, get a generous little jar of orange water color, such as is made up for painting window display cards. Stationers keep it. Its thick liquid can be diluted to suit the need. Or mixing your own color from a jar of red sign paint to one of yellow will achieve just the orange you wish. The paint dries quickly. A simple dipping in warm water will return the painted bulb to its original clear state. The paint is an excellent method of subduing hall and bathroom lights and bright lights of all kinds.—E. L.

A Handy Container. Take a half yard of material 36 inches wide and a wire coat hanger. Fold the material one half over the other, making the fold the bottom of the bag. On one side cut a hole near the top and about six inches in diameter, and hem or finish with bias tape. Sew up the three sides, with the coat hanger inside and leaving just room for the neck to protrude from the top. Hang on the clothes line and push ahead of you as you hang the clothes.—Mrs. C. A. B., Ohio.

To Save Scraps. Instead of using a waste basket in my sewing-room, I have a bag hanging on the wall. I put all clean ravelings and scraps from the weekly mending, as well as from making new garments, into the bag. The larger pieces should be cut until they are no more than two inches across. I use this "waste" to fill cretonne cushions for my living-room. It makes a splendid filling and it is surprising how quickly enough for a cushion is saved.—Mrs. G. R., Illinois.

Uses of Salt. There are many uses for table salt besides seasoning foods. If a carpet or rug looks dull and old, sprinkle with salt, and sweep with a dampened broom. You will find that it looks considerably brighter.

After having hands in dishwater or scrubwater for a length of time, try using salt to keep them smooth and white. First wash with soap and water. While wet, rub them well with a handful of dry salt. Rinse with clear water. Do it constantly, and the result will be pleasing.

Sometimes when milk utensils are put into soapy dishwater, the cloth becomes slick and hard to handle. In such a case throw in a generous handful of salt, and your trouble is ended.

Any housewife knows the terrible odor which comes from scorched milk. If milk should boil onto the stove, sprinkle with salt and the burning will cease.—Mrs. L. H.

Grow Your "Fern." If you have not had success raising ferns but still wish to have a beautiful green center dish that lasts all winter, here is a dandy substitute. Fill the fern dish with rich earth and plant the seeds of a grapefruit. Put them in thickly and cover one-half inch deep. Keep well watered. They are usually slow to come up but are worth waiting for.

Mrs. M. R., South Dakota.

Picking Ducks. The job of picking ducks is always unpleasant because of the down left after the heavy feathers have been removed. I sprinkle melted paraffin over the down. As soon as the paraffin hardens, the feathers stick to it and are easily removed.—Mrs. W. J. R., Michigan.

A Handy Knife Rack. The knife rack illustrated above is convenient and saves time hunting for knives in the drawers. Besides, it helps in preventing cut fingers.—Mrs. R. H. J., Minnesota.

How to Remove Dents. Tin or aluminum utensils often get dented. When one attempts to straighten out the dent with a hammer alone the result is usually a number of small dents which are almost as bad for the utensils as the large dent.

I have discovered a method of taking dents out of such utensils which leaves the surface practically as smooth as it was originally. Cut a section of old inner tube five or six inches in length. Slip this over the head of a hammer so that the striking face is covered by the rubber. Take a rubber heeled shoe and hold the heel firmly over the dent on the outside of the utensil. Now strike light tapping blows on the inside of the utensil with the rubber padded hammer. Keep the rubber heel adjusted on the outside to the blows on the inside. If more padding over the hammer is desired, part of the inner tube can be pulled back over the hammer head so as to give a double thickness of rubber over the striking face. By turning back this flap once again a triple thickness will be obtained. Usually a double thickness is more satisfactory.—W. J. R., Indiana.

To Brighten Aluminum. To keep the lower part of our new aluminum double boiler bright and new looking we put a few potato peelings in the water each time it is used. A stalk of rhubarb is just as good.—Mrs. J. W. McC., Iowa.

To Steady Power Machine. When our power washing machine refused to stand still we bored holes at both ends of two 2 x 4's. The legs of the machine were placed in these holes and the 2 x 4's lightly tacked to the washroom floor.—E. L. M., Washington.

To Clean Shoes. To clean your light shoes, just rub lightly with a piece of art gum. All surface dirt will be removed as if by magic. I always carry a piece of this in my purse, as it is invaluable in keeping up a neat appearance while away from home. —J. C., Illinois.

To Scrub Concrete. A long window squeegee with heavy rubbers saves a great deal of time in scrubbing concrete floors, walks, and porches. The surface is scrubbed as usual and the water rubbed off with the squeegee with the result that there is less water left on the surface to catch dust and dirt.—Mrs. V. I., Ohio.

Ironing Made Easier. To make the iron work smoothly while ironing, bore a few holes in one end of the ironing board to the depth of about a half-inch. Fill these with beeswax or paraffin and cover the holes with two thickness of muslin. Rubbing the hot iron over the cloth will bring up just enough of the wax to make the iron work smoothly.—L. T., Kansas.

How to Keep Flies Away. To keep flies off the door screens saturate a rag with coal oil and rub it over the screens. This will keep a lot of flies out of the house.—Mrs. W. C. B., Ohio.

Hang Your Clothes. With a key ring on each section of my clothesline and a harness snap on the clothespin bag I can readily slide it along the line and have the pins handy.—Mrs. E. J., Iowa.

Hang Clothes Inside. When my husband was obliged to hang up our washing in cold weather, he worked out the following scheme: the clothesline posts were placed fairly close together; the cross arms were provided with rings; the clothesline was cut into short lengths and a snap fastened in the end of each section. It is now easy to snap the line to supports in the kitchen while the clothes are pinned on. It is then moved to the drying yard and quickly attached to the posts.—Mrs. T. R. K., North Dakota.

To Roll Lines Straight. When rolling up clothesline, wire, or rubber hose, roll towards you instead of from you and it will not kink or twist.—Mrs. W. E. D., Pennsylvania.

Automatic Waterer. While on my vacation I place my flower pots in a wash tub of water. The water seeps thru the pots enough so that the flowers do not need to be watered. —Mrs. F. L., Wisconsin.

To Keep Salt. When salt sticks in damp weather, add a teaspoonful of cornstarch to each cupful of salt and mix thoroly.—Mrs. G. V. K., Michigan.

Charcoal for Icebox. To remove odors from the icebox, cupboards, or pantry, put in a dash of boiling water and drop in a piece of charcoal. The charcoal in a closed bottle or jar will also keep it from becoming musty.—Mrs. R. L. K., Missouri.

Use Hose Often. An ordinary piece of garden hose saves many steps and much lifting on wash day. I have found that it also saves much splashing and disagreeable messing around which usually accompanies wash day.—Mrs. H. F., Wisconsin.

To Grow Plants. I save all the one-pound butter cartons for future use as bands in which to grow garden seeds. The cartons are cut in two and about four seeds planted in each one. The spindling plants are removed and others may be placed directly in the ground.—Mrs. S. G. P., Wisconsin.

For Child's Shoe. The tongue in children's shoes very often slides around to one side, where it makes the foot very uncomfortable. I make two small slits in the tongue thru which the shoe laces are passed. The sketch shows clearly how this prevents the trouble.—Mrs. P. A. B., North Dakota.

How to Scald Chickens. A temperature between 140 degrees and 160 degrees in water used for scalding chickens is much better than the boiling point. I find it worth while to test the water with a dairy thermometer for the work is made easier and a better-looking job is obtained. —R. Q., New York.

Use for Flour Sifter. A discarded flour sifter proved to be just the thing for converting into a handy grain scoop. I use this when filling mash hoppers and feeding the cows, and it is handy for removing the feed from either a basket or a bag. All the fixing it needed was the removal of the revolving sifter part. It holds just a quart which makes it convenient in measuring the right amount of feed for each cow.—G. R., Michigan.

A Good Idea! I keep a small bank on the clock shelf in which I place 7 cents each month. At Christmastime I renew my subscription and send in two subscriptions for gifts to some of my friends who should be reading *Successful Farming*.—Mrs. K. G. L., Minnesota.

Potato Water for Silver. My tableware is polished by allowing it to stand one hour in potato water. When it is removed and dried it shines like new.—Mrs. R. L., Illinois.

To Remove Lettering. The lettering may be removed from flour sacks by simply dipping them in coal oil. I then wash them thoroly in cold water and put them on to boil. The lettering then disappears.—Mrs. J. W. C., Kentucky.

Sweet Scented Pillows. Last summer we gathered leaves and twigs from a clump of old-fashioned sweet-smelling mint. They were placed in clean muslin sacks and kept among my little girl's clothes. At Christmastime I made a number of bright silk pillows which were filled with the dried mint. They were very nice for pin-cushions, or to keep in handkerchief boxes.—Mrs. R. M. M., Kansas.

Wax Your Door Latch. We have found that paraffin wax rubbed over the latch and strike plate of automobile door makes it work like magic. It has a further advantage in the fact that it does not collect dirt. The same treatment also is good for stubborn door latches.—H. L. P.

Collect Scraps. When sewing, if a paper bag is hung on the side of the machine for scraps of material and thread, much time will be saved which is often spent in gathering up waste material.—Mrs. O. N. M.

How to Save Water. I have spring rains for summer flowers in this manner: Tin cans are sunk in the flower beds, so that the tops are 8 or 9 inches below the level of the soil. They are covered with straw to prevent them from filling with dirt. Spring rains will fill the cans with water which the plants will use during the heat of summer.—Mrs. A. H., Missouri.

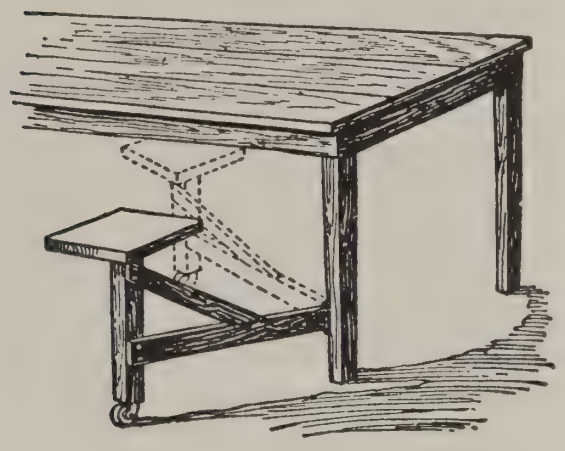
Good Nut Cracker. For cracking nuts there is nothing more satisfactory than a good block of hardwood with a few holes bored in it to fit the different sized nuts. There is no need of holding the nut with the fingers, and as hard a blow may be struck as desired. Make the depth of the holes two-thirds the height of the nuts and the broken pieces will not scatter. Use a heavy piece of wood at least two inches thick and four inches square.—T. H.

Good Egg Gatherer. Gathering eggs from deep mangers is never a pleasant task. To get around this difficulty, I took a piece of No. 9 wire, about 1½ feet long. One end of the wire was bent into a loop and a handle was attached to the other end. Some strong denim was sewed to the loop. I can now gather the eggs much more conveniently.—J. A., Iowa.

How to Clean Buckets. When cleaning buckets that have had lard in them, warm the bucket and rub with corn meal or bran. Then the bucket will be much more easily washed.—Mrs. J. L. L.

Chill Your Candles. Candles which are to be used for decorative purposes will keep their shape better and last much longer it they are chilled before using. It is well to let them freeze beforehand either in the ice box or in the wintertime out-of-doors.—Mrs. E. J. H., Kansas.

Stool on Kitchen Table. I find that a stool hinged to the kitchen table leg so that it can easily be pushed under the table when not in use is a great convenience. The one illustrated below has one leg and a caster for a roller. For tables with round legs a collar of strap iron may be used instead of a hinge.—Miss S. W. R., Iowa.



How to Waterproof Shoes. To waterproof shoes, use a mixture of one pint tallow, one pint neatsfoot oil, ½ teacupful of lampblack, and a piece of rosin the size of a walnut. Melt it all together and apply all the leather will absorb while warm. One application every two weeks will keep the shoes waterproof.—N. B. O., Michigan.

To Clean Suede. Suede shoes may be cleaned with steel wool. It may be used either dry or with gasoline. It also roughens up the worn places and makes them look like new. A little brushing completes the job.—Mrs. P. B., North Dakota.

Make Your Own Grate. Oftentimes a grate is not available for preparing a meal over the campfire. In such a case use two forked sticks, driving them into the ground on opposite sides of the fire with the forked ends up. Stretch wire across the crotches and fasten to pegs in the ground on either side. Hang the pots onto the wire over the fire for boiling.—A. D. B., Minnesota.

Sour Milk as Cleaner. When cleaning stained silver, place in a pan and cover with sour milk. Let it stand overnight. Pour off the milk in the morning and rinse the silver in clear, cold water. Then rinse in hot water and dry.—Mrs. A. T. H., Minnesota.

How to Remove Paper. To remove old wallpaper, spray boiling hot water on the wall with a spray pump. Spray about 12-foot strips at a time and then pull the paper off cleanly in the original strips. This beats using moistened rags as the water can be used so much hotter.—J. S., North Dakota.

Rubber Doilies. To protect window sills from stains from potted plants cut various shaped rubber doilies from old inner tubes. These are very effective and can be made to look nice.—E. C., Minnesota.

To Keep Juice in Pie. When baking pies that are juicy, prevent the juice from running over in the oven by binding a strip of muslin around the pie before putting it in the oven.—E. C., Iowa.

To Refinish Linoleum. When the paint has worn from the linoleum paint it all over with a good foundation color such as blue. When dry dip a sponge in paint of another color and pat all over. When this has dried varnish it. This makes an all over pattern that is very pleasing.—Mrs. H. W. H., Michigan.

To Destroy Moths. To kill or prevent moths on silks or woolen material get equal parts of wood alcohol and formaldehyde. Apply this mixture with a spray to overstuffed furniture, clothing, rugs, or anything infested with moths. The solution does not stain and the odor soon leaves.—Mrs. L. L., Michigan.

Storing Stove Pipes. When the stove pipes are to be stored, we first pound the soot out of them. Then we lay newspapers down and wrap each one cornerwise in a piece of the newspaper folding the corners in. This enables us to handle the pipes without getting soot on our hands and also prevents getting soot over the storeroom floor.—Mrs. C. A. C., Minnesota.

A Non-Slip Rug. To prevent small rugs from slipping, I sew fruit jar rubbers at each corner.—M. G., Ohio.

This Saves Sheets. I find adhesive tape when pasted around the corners of bed springs, will prevent them from catching and tearing the sheets. Pieces of adhesive tape were also pasted on the bottom of baby's shoes when he was learning to walk. They kept him from slipping.—Mrs. L. E. Q., Nebraska.

How to Remove Oil. To remove oil or grease spots from wool rugs or wool garments place a piece of blotter over the spots and set a warm flat iron over the blotter. Remove to a clean part of the blotter as the blotter draws out the oil.—L. D., Illinois.

To Make Corn Pop. When popcorn fails to pop satisfactorily try soaking it first in cold water for 15 minutes. Drain and pop and you will be delighted with the results.—Miss E. H., Iowa.

How to Remove Stains. To remove brown stains from the bottom of vases, cream pitchers, and granite ware I use a solution of one-third hydrochloric acid and two-thirds water and rub the stained surface with a cloth wrapped around a short stick. The brown stains disappear immediately. It is necessary to thoroly clean the vessel after the hydrochloric acid solution has been used. —Mrs. H. R. C., Iowa.

To Make Caster Stay. To prevent casters from slipping out of furniture fill the holes with melted paraffin, push in the casters while it is still warm, and let them set.—Mrs. R. G., Indiana.

How to Remove Paper. To remove old wallpaper cover with a hot thin starch using a whitewash brush with which to apply it.—B. F., Ohio.

How to Keep Bread Moist. Cut an apple in two and put it in an airtight container with cake and bread, and it will keep the pastry moist for an indefinite length of time.—Mrs. C. W., South Dakota.

Destroying Ants. Grease a plate with lard and set it where the ants abound. They prefer lard to anything else. Place a few sticks around the plate for them to climb up on. Occasionally turn the plate bottom up over the fire, and the ants will fall in with the melting lard. Reset the plate and in a short time you will catch them all. Powdered borax sprinkled around the infested places will exterminate both red and black ants.—Mrs. E. S.

Indoor Sand Box. A sand box four feet square placed in our warm and light basement has provided hours of amusement for our small children.—Mrs. R. R. W., Iowa.

Removing Chiggers. This may sound simple but it works for us. Instead of attempting to dig out chiggers with a needle take a little piece of adhesive tape, press over the chigger tightly and then pull off. The chigger will stick to the tape.—Mrs. J. B. N., Kansas.

How to Remove Oil. When road oil was accidently tracked on my rugs, I spread cornstarch over the spots. This was allowed to remain an hour when it was swept off, and the oil came with it.—Mrs. E. C. R., New York.

A Place for Toys. Hinging the top of the bottom step of our back porch has given us an excellent place for the children's toys. We keep it fastened down with an ordinary screen hook which is not noticeable. It is easily accessible and makes a very convenient place in which to keep their croquet set, baseball bats, and similar material.—Mrs. A. M. H., Ohio.

Keep Chimney Dry. To prevent a sweating chimney from spoiling your walls and stovepipes, cut a half moon in the upper part of the pipe that extends into the chimney. Have the end at the elbow a trifle higher, so that the pipe slants into the chimney, and your troubles with a weeping stovepipe will end at once.—Mrs. W. E. Z., Pennsylvania.

Heat Knife to Cut. To cut bread or cake smoothly and without the jagged edge which so frequently results when cake or bread is fresh, heat the knife over the flame until medium warm, and then the bread or cake may be cut in smooth even slices, perfectly.—M. D. C., Kansas.

"Pin Cushion." A big oat or sugar sack, well filled with fine straw, chaff, or clearings from grain, makes a very effective "pin cushion" when tacked up to a wall of your feed alley to keep your forks stuck in. They are easily available and there is no groping in the dark for your forks.—L. D. K.

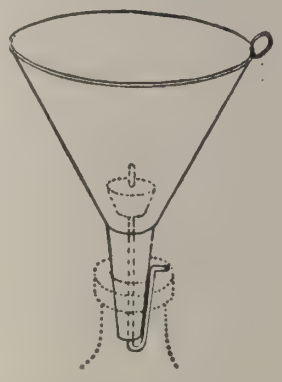
Strengthen Your Rug. To lengthen the life of rugs, make a thick flour paste and, while boiling, add enough alum to give it a sour taste. Turn the rug upside down and apply a heavy coat of the paste with a brush or whisk broom, rubbing it in well till the other side shows dampness. Double the rug with pasted sides firmly together and lay in an airy place to dry. I have a fiber rug thus treated that has had hard usage on the porch for eight years.—Mrs. J. C. C., Pennsylvania.

Use Damp String. When tying packages, dampen the string first. This prevents slipping and as the string dries it shrinks, keeping it tight.—Mrs. T. P.

To Clear Windows. To prevent windows getting streaked while washing, add just a little kerosene to the warm water.—L. N., Minnesota.

This Saves Sheets. To prevent sheets from being frayed by the wind while they are hanging on the line I pin them as usual. Then standing with my back to the wind I take the two corners facing me and pin them to the line, thus forming a triangular bag.—S. A. C., Ohio.

Use Funnel Stopper. Who is there who at some time or another in filling a blind container with a funnel has not overflowed some of the liquid for lack of a means to quickly save what was in the funnel when the container was full. The simple funnel stopper shown in the sketch will prove handy for this nuisance.—C. H. W.



Use Ashes to Clean. Ashes have proved very effective in cleaning the top of my range. When the range is cold, I take a damp cloth and rub on the ashes. Wash stove twice with clean water and polish dry with a clean woolen cloth.—Mrs. O. J. J., Minnesota.

To Remove Paper. To remove old wallpaper, use a solution of paste or flour in water and add a few ounces of baking soda. Spread this paste on freely and the paper comes off readily.—C. W. S., Illinois.

To Whiten Clothes. Two tablespoonfuls of turpentine added to the boiling water will sweeten and whiten white articles grown yellow or dingy from being packed away for long periods. Repeat the treatment if necessary. Results will be most gratifying.—Mrs. J. M. R., Illinois.

A Non-Slip Idea. When setting dishes on ice, put a fruit jar rubber under each dish and they will not slide.—Mrs. M. M., North Dakota.

When Whipping Cream—Add one teaspoonful of sugar to very heavy cream to prevent its turning to butter when whipped. A very little baking powder in whipped cream just before it is sufficiently whipped will make it light and keep it so for some time, preventing the heavy butter quality that whipped cream sometimes has.—E. P.

To Remove Ink. To remove ink stains from any material, mix equal parts (usually one teaspoonful of each) of powdered alum and cream of tartar with enough water to form a thick paste. Put it on the spot and press down firmly. Let it dry thoroly and wash in the usual way.—H. H., Iowa.

A Rolling Table. I find that by putting casters under my kitchen worktable, it is very convenient and saves many steps. After my dishes are washed and dried, I push the table up to the cupboard to set them away, then push it in place again and I have saved quite a few steps. One can move it any place where it is most convenient to work and you are bound to find it helpful in many other ways also.—Mrs. P. H. M., New York.

Use Pliers Here. When opening a sealed glass jar, use a pair of pliers. Take hold of the lip of the rubber and draw it out till air is admitted, and the cover can be easily removed.—Mrs. L. D. D., New York.

A Rolling Wood Box. A wood box helps keep my floors clean and is mounted on casters. At filling time the box is pushed to the door and it is not necessary for anyone to make dirty tracks clear across the room. After filling, the box is pushed back in its place.—O. E. C.

Mark Poison Bottles. Medicine bottles containing poison have a sharp needle or pin thrust into the corks. There is then no danger that we will pick up the wrong bottle by mistake.—Mrs. A. C. T.

How to Remove Gum. We find that when chewing gum becomes attached to washable material that it may be removed by softening with egg white and then washing.—D. M., Nebraska.

Fly Proof Door. Flies have the habit of congregating along the tops of screen doors. When there are little folk running in and out the flies find many opportunities to slip into the house. We made a small door in the lower half of the screen door for the children to use. The children enjoy this special door and the flies sit undisturbed on the top of the screen. —Mrs. H. V., Wisconsin.

Good Pie Carrier. For carrying a number of pies to picnics or dinners I have developed a handy article. Take a piece of heavy cardboard a little larger than a pie. Tack large spools to each corner. This can be placed over a pie and another pie put on top. A number of these racks may be used if desired.—Mrs. W. S., Nebraska.

To Shorten Sleeves. Frequently the sleeves of ready-made shirts are too long. Tucks made on the outside of the sleeves are not neat. I turn the sleeves inside out and make a tuck on the underside where it cannot be seen. If this is neatly done it will not be disagreeable to the wearer.—Mrs. E. E. W., Missouri.

Use Thread to Cut. Do not attempt cutting brown bread when hot with a knife. I use a fresh piece of silk or linen thread. The bread will not crumble or break.—D. K.

Paint Scraper. Every housewife needs at some time a simple device to remove paint and varnish from window panes. The following sketch shows how I use a clothespin and discarded razor blade for this purpose. —Mrs. G. W. C., Kansas.

My scraper takes paint off glass

Cleans Glass. A glass dish ruined by having hard water stand in it continuously may be recleaned in the following manner: Fill with sour milk and allow to stand a day and a night. Then wash the glass and it is usually found that the original luster has been recovered.—G. W. R.

Keep Glass Clean. When painting window frames, we rubbed a little petroleum jelly on the glass. Paint was then easily removed where it has smeared the glass.—Mrs. R. S., Iowa.

To Clean Springs. I have found that a cord dish mop with a handle is a very good thing with which to clean bed springs.—Mrs. A. F. K., New York.

To Clean Glass. To clean glass take a small oblong block of wood and stretch a short piece of an old tire inner tube over it. The rubber will not scratch the glass.—F. B.

Bake Pumpkin. When I stew pumpkin I do it in the oven. Pumpkin is cut in halves, the seeds removed, and then it is placed in the oven. After thoroly baking, remove from the shell and mash thru a sieve. —Mrs. H. P., Michigan.

Soot Easily Removed. Grease the bottom of kettles with plain lard before putting them next to the fire. Smoke and soot may then be removed with ease.—Mrs. A. K., North Dakota.

How to Clean Rugs. Our rugs have been greatly improved by cleaning them with corn meal and gasoline. The gasoline is added to corn meal until a wet mixture is obtained. A flat-top brush is dipped in this mixture and applied to the entire surface of the rug.—Mrs. W. K., Indiana.

A Good Paint Filler. A very satisfactory and durable crack filler may be made for floors and walls by sifting together two parts of rye flour and one part of air-slacked lime. Moisten with linseed oil to the consistency of putty and mix well. This filler takes paint and varnish and will last for years.—Mrs. J. W., Wisconsin.

Protecting Varnish. An old inner tube cut into ovals will prevent flower pots and vases from injuring varnished tables or windows. I have used this idea with much success.— Mrs. C. S., Ohio.

For Fluffy Eggs. By adding a pinch of salt and a teaspoonful of baking powder to the whites of eggs that are to be beaten, a fluffier, drier, and stiffer frosting results.—Mrs. P. B., South Dakota.

Water Jugs. When we store water jugs for the winter a tablespoonful of vinegar is placed in each one. If you keep them corked they will not have that musty odor which is so commonly found when jugs are again needed in the spring.—Mrs. M. A. B., South Dakota.

How to Remove Lime. A weak solution of cider vinegar boiled a few minutes in the teakettle will remove the deposit of lime.—Mrs. S. P., Michigan.

For Corroding Tops. A good way to keep the metal tops of salt shakers from corroding is to cover the inside with melted paraffin. While the paraffin is cooling, open the holes by punching them with a pin.—Mrs. R. L. N.

To Toughen Glass. New tumblers in our house are placed in a kettleful of water which is brought to a boil. The kettle is then removed from the stove and allowed to cool. So treated tumblers will not break when hot water is poured into them. —P. K., Iowa.

To Polish Range. My enamel range has been kept clean by washing it with warm water and soda while it is cold. Then polish with old newspapers. The top of the stove is rubbed with paraffin.—Mrs. A. A. S.

Non-Freezing Line. My clothesline rope is always boiled for a half hour or longer in salt water. This prevents it from tangling and the salt prevents the clothes from freezing to it. The clothespins are also boiled in salty water.—M. C., Illinois.

To Make Basket. A banana crate painted white inside and out and the hoops painted in tulip red made me a satisfactory soiled clothes-basket. Another one is used for the baby's playthings.—Mrs. C. F., Iowa.

A New Way. When the roaster is too small for the turkey try making a blanket of dough by mixing together 4 cupfuls of white flour and enough water to make a stiff mixture. Place the turkey in the pan and cover well with the blanket. No basting is necessary and the dough is discarded as it is certain to be burned on top.—Mrs. R. P. S., New York.

This Cleans Drains. We keep our drain pipes clean by pouring a cupful of kerosene down it each wash day. A few minutes later a bucket of boiling suds follows the kerosene.—Mrs. A. W., Ohio.

Lime Collector. A marble in our teakettle collects the lime and prevents it from becoming a nuisance on the sides and spout of the vessel.—Mrs. H. F., Illinois.

Cleans Strainers. We find that a piece of steel wool will clean the screen in milk strainers very effectively.—Mrs. W. B. S., Minnesota.

Removes Cake Easily. To remove a cake which sticks to the pan I dampen a cloth in hot water and wrap around the pan. Steam soon forms and the cake comes out without further difficulty.—M. T., Minnesota.

Preserve Lemons. To keep lemons for a considerable time I coat them lightly with paraffin, using a small brush. By heating them slightly the paraffin will roll off.—Mrs. O. A., Ohio.

How to Mend Oilcloth. To prevent a cut in the oilcloth from becoming an unsightly hole put a strip of adhesive tape on the wrong side and press the edges down smoothly. —Mrs. C. H. H., Michigan.

Place for Mirror. We found that an extra mirror placed on the wall directly back of our bathroom mirror is a great convenience and is used constantly.—R. S. B., Indiana.

Picks Geese Easily. When we pick geese, an old silk stocking is slipped over their heads, which prevents them from biting us while at the same time they are able to breathe comfortably.—Mrs. C. L. S., Missouri.

Paraffin Remover. The paraffin cover on jelly glasses is very often hard to remove. I pour a small amount of paraffin on the jelly and then lay a clean string across the glass before pouring on the rest of the paraffin. The string extends across the edges of the glass and is easily grasped when removing the paraffin. —Miss G. E.

Avoids Raveling. Before cutting materials that ravel easily, mark around the pattern with wax crayon and the goods will not ravel when cut.—Mrs. C. F. W., Iowa.

Fogged Glasses. When entering a warm room on a cold morning, if you are wearing glasses, try backing in and you will be surprised at the result. Moisture will not be nearly so troublesome.—Mrs. E. J. H., Kansas.

Children's Playhouse. Amusement during the long winter days for little folks became a problem in my home. A large box was obtained from our grocer and legs were placed under it and three shelves built inside. The first shelf was fixed up for a kitchen, the second as a dining-room, and the third as a bedroom. The furnishings were obtained at a 10-cent store. The results were most gratifying.—Mrs. O. H. D., Ohio.

Charcoal Absorbs Odors. A piece of charcoal placed in the refrigerator is very useful in absorbing any odors and in keeping it sweet smelling.—Mrs. C. A., Michigan.

Straight Rugs. Rugs that do not lie straight or curl up around the edges are treated at our house with hot starch. The starch is brushed on the wrong side of the rug and the rug pressed with a hot iron.—E. B., Minnesota.

No Gasoline Odor. To eliminate the odor of gasoline from clothes after they have been cleaned add about five drops of oil of sassafras to one quart of gasoline.—Miss C. N.

Make Clothesline Reel. Where ever a fiber clothesline is used, the common practice is to detach it after each washing. If left loose knots are very apt to form in the unwinding. A fine reel may be easily cut out of a piece of pine board 18 inches long and 10 inches wide (more or less). Round out the ends concavely so that the rope will not slip off when wound over the reel. Leave the upper left-hand corner a trifle higher for a handle and also to provide space for boring a hole for hanging.—E. M. J., Wisconsin.

Singe With Gas. Try singeing your fowls over a gas or oil burner instead of using a paper torch.—Mrs. H. W., Michigan.

Child's Knob. The little folk who continually demand mother's attention in opening the screen doors for them during warm weather will be delighted if you provide a knob at the right height for their convenience. A homemade one can easily be fashioned by using a large spool cut thru the middle, and a long screw. A rubber washer on the end of the screw will prevent possible injuries to the little hands.—Mrs. B. C., Michigan.

To Avoid Burned Milk. Milk can be prevented from burning or sticking to the bottom of kettle when boiling or scalding for any purpose by first putting a small amount of water in the kettle to be used and heat it before adding the milk.—M. S., Michigan.

Heat Gasoline—Care! To start the motor on our washing machine on cold days I place a pail of hot water outdoors. In this pail a small can of gasoline with cork removed is placed. The motor starts easily with warm gasoline.—Mrs. C. M. G., South Dakota.

Non-Crack Icing. To prevent boiled icing from cracking and falling off when the cake is cut, add two tablespoonfuls of cream just before spreading the icing.—Mrs. M. E. A., Ohio.

For Clean Windows. For rapid spray painting of window sash, use paper on the glass. For large panes, cut strips four inches wide and lay along the sides. For small panes, have your local painter cut to exact size of pane from cheap paper. Wet the paper and it will stick to the glass while painting and come off easily when thru.—J. L. A., Iowa.

A Good Idea. When putting away my little girl's dresses after ironing, I put a handkerchief in the pocket of each. This saves last minute hunting in the morning before she leaves for school.—Mrs. A. L. J., Ohio.

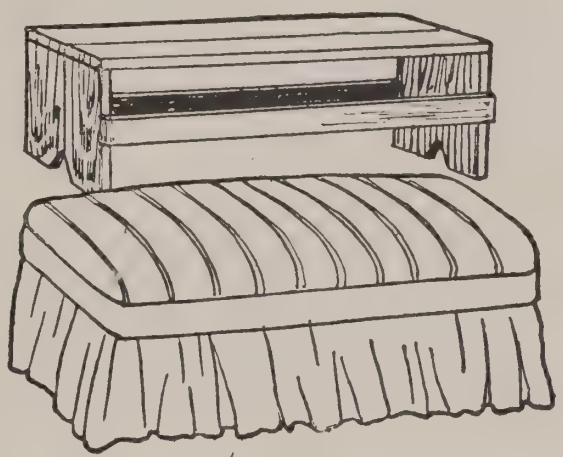
Wax Lace Tips. The metal tip sometimes comes off one's shoelace and it is difficult to make the lace go thru the eyelets. You must either throw the pair away or waste time in lacing your shoes with a tipless string or lace. A very satisfactory tip can be put on quickly and easily by dipping the end of the lace in melted paraffin, beeswax, or the like, and shaping it to a point before the wax hardens.—M. J. M., Nebraska.

Cinnamon Apples. A few little red cinnamon drops in apple butter gives it much better color and flavor. —Mrs. R. C., Ohio.

Enlarges Kitchen. Our kitchen was too small until we changed the hinges on the door to make it swing into another room. This gave us plenty of room for a breakfast set.—Mrs. E. D., Illinois.

Non-Creeping Chair. To break a rocking chair of the annoying habit of creeping, I tacked a strip of felt along the bottom of each rocker.—Mrs. U. P. L., Indiana.

Low Bench. To make a low bench, similar to the one in the picture illustrated below—take a discarded automobile cushion, preferably black leather, but any kind will do, and place this on top of the bench. Then sew a strip of brightly printed chintz or cretonne about four or six inches wide a little below the top of the cushion on the ends and front. Make a ruffle of sufficient width to barely reach the floor. This should be of the same material. Sew this to the strip on the cushion. The ruffle will hide the bench from view.—Mrs. M. S. H., Wisconsin.



Preserves Yeast. I have successfully kept portions of a yeast cake between bakings by wrapping it carefully and then putting it into a bag or barrel of flour. It is then safe from cold, heat, or moisture.—Mrs. P. McD., Iowa.

Long-Burning Lamp. When it is necessary to burn a lamp continuously under a grain sprouter or water heater, time is saved by using a one- or two-gallon oil can. A No. 2 lamp burner will screw into the top of the can. By attaching a wick, the lamp will burn at least a week without refilling.—Mrs. A. L. R

Cools Pie Quickly. To cool a pie quickly, I remove it to a plate, which is set on top of a colander. This permits free circulation of air under the pie.—C. N., Iowa.

Uses Old Silk Stockings. Pieces of discarded silk stockings are sewed in the children's sweaters at the elbows. Such reinforcing adds to the life of the garment.—Mrs. E. N. W.

Washing Inside. In cold weather it is necessary to bring our washing machine in the house. The exhaust pipe from the gasoline motor is placed in the ash pit of our range. Dangerous fumes are thus easily removed.—Miss E. M. Y., Wisconsin.

Cloth Lasts Longer. I double the life of tablecloths by removing one inch from one end after the cloth has had considerable use. Signs of wear appear first where the cloth is folded but shortening the cloth changes the position of the folds slightly.—Mrs. J. M. D.

For Cold Days. When I am obliged to hang up clothes on extremely cold days I rinse my hands in vinegar before going out-of-doors. Rubber gloves are also a great help.—Miss M. A. McI., Iowa.

Helps Cream to Whip. The white of an egg added to whipping cream will often make successful whipping possible where otherwise no results can be obtained.—Mrs. G. M., Minnesota.

Slips Shoes Easily. Our children have been taught to slip a piece of newspaper over the heels of their shoes when putting on high overshoes that are tight. This is especially helpful when there are rubber heels on the shoes.—Mrs. E. H. F., Iowa.

Handy Sprinkler. For the woman who has many clothes to dampen and iron my plan should be interesting. I obtained a cheap new hand fly sprayer which distributes the moisture evenly and quickly.—Mrs. J. L. W., Iowa.

Picks Up Glass. To pick up bits of finely broken glass moisten a piece of absorbent cotton, and press lightly over the glass. The glass will adhere to the moist cotton. This prevents slivers of glass from getting into small fingers and feet.—Mrs. M. A. K., Minnesota.

Soak Walnuts. By soaking black walnuts in boiling water for 40 minutes before cracking, the kernels are toughened and come out in much larger pieces.—Mrs. L. R. N., Pennsylvania.

How to Heat Varnish. When we varnish our floors or linoleum we put the varnish in a small dish which is placed in a larger dish filled with hot water. The varnish spreads easier and goes much farther.—Mrs. H. L. W., Wisconsin.

Using Old Records. We have made many attractive vases and dishes this winter from old phonograph records. The record is placed in hot water until it is soft enough to work easily. Then it is bent into the shape desired. The hole in the center is filled with wax, which may also be used for decorations. Some bronze paint adds the finishing touches.—Mrs. P. M., Illinois.

How to Clean Walls. When walls are discolored by having matches struck upon them, remove the stain with lemon juice and wash with warm water.—M. E. McL., South Dakota.

Use for Cork. In my kitchen cutlery drawer I keep a large cork in which a variety of small tacks, nails, and screws are stuck. This is a great convenience when one is in a great hurry.—Mrs. R. H., Iowa.

Use Vaseline. When painting doors and windows we smear the locks with vaseline. Any surplus paint is then easily removed.—Mrs. E. M. J.

Orderless Cabbage. A very simple means of ridding boiling cabbage of its disagreeable odor is the use of half a green pepper, with seeds removed, boiled with the cabbage. This adds to the flavor and at the same time leaves the kitchen odorless. —Mrs. J. O. C., Wisconsin.

Sawdust on Floor. Sawdust spread evenly over a rough floor will greatly improve the wearing qualities of linoleum, we find, and will give it a much more even surface.—Mrs. W. H., Indiana.

How to Remove Soot. When soot is accidentally spilled on carpets and rugs cover it with dry salt. It can then be swept away without making a smear.—Mrs. E. K., Michigan.

Wax Chairs, Too. Every time I wax my floors I also wax my chair rockers. This saves unsightly marks on polished floors.—Mrs. C. E., Michigan.

Use Kerosene. Clothes do not freeze to my wire clothesline because I wipe it with a cloth on which just a little kerosene is dropped.—Mrs. D. G., Nebraska.

Keep Children Warm. Our small children are kept off the cold floor by a very simple arrangement. Old rockers are fastened beneath a box, in which the child is placed.—Mrs. C. J. S.

A Handy Sewing Kit. Endless steps while sewing have been saved by a kit which I tie to the arm of my chair. It has pockets for scissors, thimble, needles, and each spool of thread.—M. F., Oklahoma.

A Hint for Cooks. When baking bread, cake, or pastry, smear the pan with lard and powder lightly with flour. This makes the material nice and brown when it is baked.—W. M., Indiana.

For Hot Lunches. This winter our children were provided with a pint-size thermos bottle in which to carry a hot dish for their school lunch. Some days it was creamed potatoes, peas, carrots, or string beans. The children also like all kinds of soup. After walking a mile thru the cold these lunches were very helpful to them.—Mrs. E. H. P., Nebraska.

Waterglass Removes Paint. We have found waterglass, commonly used for preserving eggs, very effective and inexpensive for removing paint from furniture. The waterglass is brushed on the furniture and allowed to stay 10 minutes. Then the paint can be rubbed off with an old scrubbing brush.—Mrs. R. C. N., North Dakota.

To Keep Crust Soft. We put a small dish of water in the oven when bread is baking. This helps to keep the crust from getting too hard.—W. W., Wisconsin.

A Remodeled Dustpan. I bent the hollow tin handle of my dustpan to a right angle with the pan and inserted a discarded broom handle. This saves much stooping.—Mrs. E. S., Illinois.

To Prevent Ladder Slipping. My stepladder is prevented from slipping on hardwood floors because I tacked pieces from an old inner tube to the bottom of the ladder.—B. N. L., Illinois.

To Silence Washer. A muffler from an old automobile was put on the end of our washing machine exhaust. This effectively reduced the noise.—A. B., Indiana.

Use Grater. We save many blistered hands by shelling popcorn with an ordinary grater.—P. B., Illinois.

How to Remove Paint. After painting we use steel wool to remove the specks of paint from the windows. It does not scratch the glass at all.—B. M. A., Minnesota.

To Keep Cabbage Fresh. I pull my cabbage by the roots in the fall and place them in a row in the cellar with roots turned toward the wall. By keeping the roots covered with damp dirt I have cabbage that is good for salads well into the spring.—Mrs. A. L., North Dakota.

Soda Prevents Curdling. A pinch of soda stirred into milk that is to be boiled will help to keep it from curdling.—S. N., Wisconsin.

To Protect Linoleum. Place rubber cane tips or caps on the two back legs of chairs to prevent the linoleum from being punctured by people who tilt their chairs backward.—Mrs. R. B., Ohio.

To Separate Stamps. If postage stamps are stuck together place a piece of paper over them and press with a hot iron. They can then be pulled apart.—H. W., Indiana.

To Clear Water. For clearing dark rain water add 1 tablespoonful of powdered alum and 2 tablespoonfuls of borax to each tubful of water. Mix well and let stand over night. Siphon with a hose or dip carefully so as not to roil the sediment in the bottom.—Mrs. L. H., Pennsylvania.

How to Remove Stoppers. When a glass stopper sticks, pour a little glycerine around the neck of the container. Let it stand for a while and the stopper can be removed easily.—Mrs. F. McK., Pennsylvania.

How to Clean Flues. To prevent the flue from becoming clogged with soot put about 1 foot length of old tire casing on the fire about once a week.—R. W. P., Ohio.

When You Wash Ceilings. Try tying a rag around your arm at the wrist when you are washing ceilings or high places. This absorbs the water which is so disagreeable when it runs up your sleeve.—Mrs. L. F. C., Nebraska.

Protect Driver's Shoes. A woman driving a car will find that a rubber pad placed on the floor of the car at the driver's feet is a protection against shoes becoming marred and worn at the heels.

To Keep Clothes Clean. I lined my clothesbasket with white oilcloth. This is more effective than newspapers in keeping the clothes moist when folded down for ironing. It also strengthens the basket.—Miss A. V. H., Illinois.

How to Wash Sweaters. When washing wool sweaters place them on coat hangers to dry and they will not sag out of shape.—Mrs. H. R., Ohio.

Room for Extra Pie. When the oven is too small to accommodate three pies turn the lid of a baking powder can upside down in the back of the oven. This will raise the first pie sufficiently to permit the tin of the second one to fit beneath it.—C. L. H., Missouri.

Storing Canvas. Are your binder canvases safe from the mice? Two old barrel hoops suspended from the rafters in my machine shed carry our canvas where it is safe.—C. S., Nebraska.

Identify Your Plants. Tags for plants can be made fairly permanent by dipping glossy cardboard in paraffin. In cases where it is desirable to keep these tags on plants for a long period of time in order to identify them the name of the plant can be written on the cardboard first, then the cardboard dipped in paraffin and attached to the plant.—J. McF. Kansas.

To Clean Hands of Paint. I have found fingernail polish remover successful in removing lacquer from the hands after painting. It does not burn the hands and reacts much more quickly than other preparations.—Mrs. H. E. C., Nebraska.

Improved Mashed Potatoes. Everyone enjoys nice fluffy mashed potatoes. After thoroly mashing potatoes which have either been boiled or baked, add baking powder according to the amount of potatoes you have. Then place them in the oven after they have been thoroly mixed. These potatoes are very light and fluffy, and have a delicate color.—Mrs. M. S., Wisconsin.

How to Remove Cork. To remove a cork which has been pushed inside of a jug or bottle place a large pearl button on a loop formed of stout thread. Drop the button in the bottle, invert and catch the cork in the loop of the cord.—Mrs. M. W., Missouri.

Save Waxed Paper. Do not throw away the waxed paper from bread, since it is nice to use in keeping the top of the stove in good condition. I have also found that tin pans can be kept in better condition if they are slightly heated after washing and rubbed with waxed paper. This prevents rust.—Mrs. A. S., Ohio.

Label Canned Products. When canning or preserving, instead of labeling your jars, write the name of the product with a common crayola while the jar is still hot.—Mrs. C. C. C., Nebraska.

An Orderly Closet. Divide your fruit, vegetable, and canned meat closet shelves into small compartments and put a label on each. This does away with labeling the fruit year after year.—M. K., Pennsylvania.

Keep Paint Off Glass. When painting window sashes you can prevent getting paint on the glass by cutting a sheet of heavy paper or cardboard the same size as the windowpane and laying it over the glass. —Mrs. O. H., Minnesota.

Use Kerosene for Sink. To keep the kitchen drainpipe clean, pour a cupful of kerosene down the pipe in the evening and then the next morning pour down two gallons of boiling water. I follow this practice once each month.—Miss L. N., Missouri.

To Kill Burdocks. I find that a strong hot lye solution is effective in killing burdocks.—Mrs. D. A. B., New York.

Peels Oranges Easier. When peeling oranges put them in a pan of hot water for a few minutes and the peeling will come off much more readily.—Mrs. M. L. G., Indiana.

Saves Bed. Place a piece of oilcloth on top of the bedsprings under the mattress. This serves as a wonderful protection from dust and lint. —Mrs. E. L., Iowa.

To Empty Vacuum Cleaner. When cleaning the bag of the vacuum cleaner I place the mouth in a large paper sack. This prevents the dust and dirt from spreading and is easily and quickly discarded.—Mrs. L. E. U., Nebraska.

How to Get Rid of Ants. To get rid of ants sprinkle sodium flouride into their runways.—Miss C. S., Missouri.

A Use for Paint Buckets. Paint buckets make very convenient receptacles if they are properly cleaned. I place a small amount of gasoline in such buckets and burn out the dried paint. This is easily done; and if you do not use too much gasoline the pail will not be injured.—Mrs. D. F. R., Kansas.

Towels for Everyone. Much confusion can be avoided by using a little thought when buying your bathtowels and washcloths as well as toothbrushes. If each child is fitted out with a set all one color it will be easy to select the right ones, even tho there may be a big family of boys and girls. There will be more incentive to take more care when the children are thru with their own individual belongings.—A. M. S., Pennsylvania.

Heat Clothes Pins. Heat clothes pins before using in cold weather. They will keep your hands warm while hanging up the clothes, will not split, and are much easier to handle.—Mrs. J. M. R., Illinois.

How to Clean Knife. When curing pork and making lard have a kettle of boiling water convenient to dip your knife into occasionally. This will prevent the fats sticking to the knife.—Mrs. A. G., North Dakota.

A Kitchen Radio. I have an extension from my radio in the dining-room to an outlet in the kitchen wall. In this outlet we plugged a second loud speaker. In this way we can have the radio tuned on in either or both rooms.—Mrs. B. P. D., Michigan.

Rollers Last Longer. After the washing is over, unscrew the wringer until the rollers are wide enough open to allow two thin wedges of wood to be slipped between them. This permits the air to pass thru freely and tends to increase the life of the rollers.—Mrs. J. W. C., Illinois.

Pad Both Sides. I have found it very useful to pad both sides of my ironing board. Make a bag of the cover which fits the board closely and then fasten with a few tacks at the wide end. This keeps the cover in place perfectly. If desired one side can be padded more thickly than the other for ironing embroidered articles.—Mrs. L. F. M., Missouri.

For Stray Buttons. Loose buttons in a box or drawer are a nuisance. Invisible hairpins will hold all the leftovers of a set, and the ends of the pin are easily twisted together. When one is in a hurry to finish a dress, there are the buttons in such shape that one can tell at a glance whether there is a suitable kind.—Mrs. E. F., Illinois.

"Playbox." Mother keeps a "playbox" in the corner under the kitchen sink. In the box she collects and stores spools, tin boxes, small hard-to-break bottles, brightly colored pictures, an ear of red corn, an old ball, the ribbonless reel from our typewriter, and similar things. Visiting grandchildren and other little tots find the "playbox" an always new source of wonder and entertainment.—V. O., Minnesota.

Secure Wrapping. Many times a valuable article has been marred or spoiled by careless wrapping. Our friends, as well as the post office officials, will appreciate our thoughtfulness if we use more precautions in wrapping packages carefully. When sending thin packages containing photographs, pictures, or calendars by mail or express, I cut two pieces of cardboard or corrugated paper a little larger than the article. Then I cut little notches in the sides to keep the cord in place thus preventing it from slipping. I always make sure to tie securely with strong cord. If more of us would remember these precautions, we would have fewer difficulties with lost and torn mail.—C. N. N., North Dakota.

Good Snap Holder. Since snaps can be so elusive in the machine drawer, I keep them in a round box such as capsules come in. It stays shut, takes up little room in my workbasket, and they are always ready to use the minute I need them. I find it wise to fasten the snaps together when putting them in the box. —Mrs. E. E., Nebraska.

For Children. To keep the children amused when they have to stay indoors, paint a number of spools red and blue, or let them do this. String as beads, horse reins, and dolls (using elastic instead of string). They will play for hours with them.—Mrs. H. E. C., Nebraska.

A Child's Surprise. Tiny gifts wrapped in waxed paper, and concealed in popcorn balls create fun and surprise. Insert a loop of gilt or silver cord in the balls and slip over the branches of the Christmas tree.—H. M. T.

For Fireplace Fuel. Tie enough soft coal to put in the range or fireplace at one time in a discarded paper bag. Make up a dozen or so at a time and you save many a hand washing. —Mrs. M. G. A., Wisconsin.

"Reminder Shelf." We have what we call the "reminder shelf" in the front hall. Each member of the family places anything he or she has to take anywhere from home—borrowed books from library or friends, other borrowed articles, umbrellas, and articles left by guests, and so on. Each package is wrapped and labeled before being placed there and we have all formed the habit of looking there before leaving the house.—R. C.

Use for Lemon. A little lemon juice will improve the flavor of the following pies when added to the filling: Mince, apple, pineapple, blackberry, raspberry, date, prune, raisin, rhubarb, cranberry, and banana. All fruit drinks are greatly improved with lemon juice, too.—A. P., Pennsylvania.

A Shoe Rack. If the clothes closet is overflowing with shoes, place two curtain rods on the door. Place them at such a distance that the heel may be hooked on the top one and the toes rest on the lower rod.—J. S.

Mending Large Holes. When mending large holes in boys' stockings or sweater sleeves, place a piece of mosquito netting over the hole on the inside and tack in place. This makes a good foundation for darning. —A. D., Michigan.

Keep Toys in Order. I solved the problem of scattered toys over the floors by painting a box and pasting pictures of toys on the sides. The children came to look at this as the toys' home and realized that they must be put there. Now they keep their toys put up.—Mrs. G. H. N., Iowa.

For Easier Ironing. Stitch together a pad of four or five pieces of inner tube about 20 inches long. It will relieve the feet immensely if you stand on it while ironing. It also makes a good knee pad while scrubbing or varnishing.—Mrs. M. H., North Dakota.

For Fresh Cabbage. I keep cabbage fresh and crisp all winter by filling a large box with good cabbage heads, the outer leaves being left on. I bury this in the garden, covering it first with boards, then straw, and lastly with dirt.—Mrs. B. H., Iowa.

Oil Your Casters. When the casters on my furniture become sluggish and difficult to move, I turn them upside down and pour sewing machine oil over them. This is a big saving to floors.—Mrs. J. S. B., Iowa.

Children's Store House. Children enjoy having their own furniture and storing places to hold their belongings. A cabinet can be easily made by placing a couple of apple boxes on top of each other. Nail them together and cover with wallpaper, which can be tacked or pasted in place. Make a curtain of cretonne and place it by wires across the front.—Mrs. H. B., Minnesota.

Children's Napkins. I have a thrifty habit of making children's napkins from pieces of gingham left over from dresses. I find the children are delighted to use a napkin to match their dress, and even little brother thinks it quite nice if he has a napkin made of the material from which sister's new dress has been cut. These wash easily and are nicely hemmed around the edges. They will give the children the napkin-using habit.—Mrs. R. G. F., Michigan.

Removes Grease. We had just gotten our house papered before I went on a short visit, and on returning three large grease spots greeted me on the kitchen wall. I began to think of what I might use, so I made a paste of talcum powder and gasoline, then spread it on the spots and let it stay all day. When I took a clean cloth and brushed it off, I could not tell any difference from the rest of the paper.—Mrs. J. F. F., Kansas.

Write It! Get the pencil and pad habit. It saves worlds of steps in our home. We have a memo pad with pencil attached on the stand beneath the phone. When any member of the family gets a call it is jotted down immediately and everyone goes to the pad just as soon as he comes in the house. Ours is so successful that we have other messages and notes besides those that come by phone. Try this and you will find it saves many unhappy arguments over forgotten items.—Mrs. M. N., Iowa.

Easy Sterilization. In order to have good success in canning one must have the lids and rubbers hot and well sterilized. I use a French fryer, filling it full with equal number of rubbers and lids, then cover with water. I let them boil good, and when they are ready to use I just lift the wire basket out. Then I can remove the lids and rubbers which were in boiling water without burning my fingers.—Mrs. B. J., Iowa.

String Container. A box in which salt has come makes a very handy container for string. Take a salt box that has a cap on top and remove the lid by cutting around with a knife. Put the ball of string in the box, put the end of the string thru the cap, and return the lid. The box may be painted.—A. S., Pennsylvania.

For Flower Beds. Early in the spring I cover the flower beds with old woven or chicken-wire fencing. After the plants are up this does not show and it does prevent the chickens from scratching in the flower beds.—M. P., Wisconsin.

Clean With Soap. Do not be afraid to use soap and water when cleaning rugs. A brush, soft water, and mild soap will clean any good carpet thoroly, by simply scrubbing. Be sure the rug will not fade, and clean thoroly as you go, leaving no streaks.—Mrs. J. J., Indiana.

List for Gifts. I have formed a habit during the year of keeping a list of things mentioned by my friends and relatives with whom I exchange birthday and Christmas gifts. When I hear them express a desire to have some article, I add it to my list. Then, when the gift time arrives, I have some idea of what they would enjoy and usually I find they marvel at my choice. You will find that from a list of this sort you may choose either inexpensive or expensive gifts. After all, don't we appreciate surprise gifts more than something we have asked for ourselves?—F. W., Illinois.

Cut Notches on Patterns Out. When cutting from patterns, do not cut the notches *in* as the pattern directs; instead cut them *out*. This prevents weak seams. After they are matched and sewed, the points can be cut away and the seam can be bound or finished more neatly than by the usual method.—Mrs. A. S., Okla.

Cook Eggs Slowly. I wonder if it took some homemakers as long as it did me to learn to cook eggs successfully. Always remember that eggs or any food which has eggs included in the recipe should be cooked slowly below the boiling point. Cooking eggs at a high temperature toughens the whites, makes them less palatable, and harder to digest. Even when frying eggs, it is quite all right to serve them firm if they are cooked slowly. Try it, they will be tender. I wish every homemaker would remember and adopt this practice because it has improved my egg dishes 100 percent, and I am sure everyone would find it worth while. —Mrs. E. G. L., South Dakota.

For Every Child. Children enjoy having their own storing places and closets. Attractive soiled clothes hampers can be made from ordinary flat bottomed bushel baskets. These are really attractive if painted to harmonize with the bedroom furniture, with a cushion fastened to the lid to match curtains and bedspread; or the entire basket may be draped with flowered cretonne. Any mother will appreciate not having to pick up soiled clothes from here, there, and everywhere, as the children delight in using the little hampers.—Mrs. L. D. S., Kansas.

A "Box Car." We put four casters on the bottom of a wooden grocery box, intending it for a toy box for the children. However, they have used it for a "scooter," a "car," a "wagon," and "airplane"; in fact, for every kind of vehicle, motor-driven or otherwise propelled. Now we are putting casters on another box for toys, and this time we are choosing one that can be stored under one of their beds. If the room permitted, one could choose a box, fit it with a cover and have it do service for toys and a window seat as well.—Mrs. E. S.

Spools for Play. I always save all the spools of various sizes. After they are empty, I stain or paint them different colors and then string them. They make interesting toys for children and help to teach them colors and counting. If they don't care to have them strung, they are just as fascinating to use in the place of blocks.—Mrs. K. P., Minnesota.

For Baby's Bath. When giving baby a tub bath, fill hot water bottle with lukewarm water and put it in the bottom of tub for him to sit on. This serves as a cushion which does not slip easily and baby enjoys his bath more.—Mrs. C. L. M., North Dakota.

To Fasten Straps. For women wishing to avoid the annoyance of having their shoulder straps slipping down, I have found the following trick very successful: Take a two-inch piece of bias tape, fold lengthwise, and stitch. Then sew a snap fastener, one piece to each end. Attach the middle of the tape to the inside shoulder seam of your dress with a few stitches. When the dress is on, merely gather the shoulder strap inside the tape, snap together, and the straps stay where they belong.—Mrs. J. G., Michigan.

Stove Cleaner. For cleaning the top of my kitchen stove, I use a blackboard eraser. It is much more satisfactory than a cloth, and keeps the hands from becoming annoyingly soiled.—Mrs. J. G., S. Dak.

Clean Crayon From Walls. If children use their crayons on your painted walls, you can easily remove all traces of damage by dampening a piece of old, clean silk with furniture polish and rubbing the crayon markings briskly until they disappear. This applies to painted or varnished surfaces and artificial leathers and oilcloth.—Mrs. P. A. T., N. Dak.

Prevent Lead Poisoning. The best preventative of headaches and lead poisoning while painting is an occasional drink of milk.—J. R., Minn.

How to Wash a Sweater. I have an idea which I am sure would help many a woman in washing men's, women's, and children's sweaters.

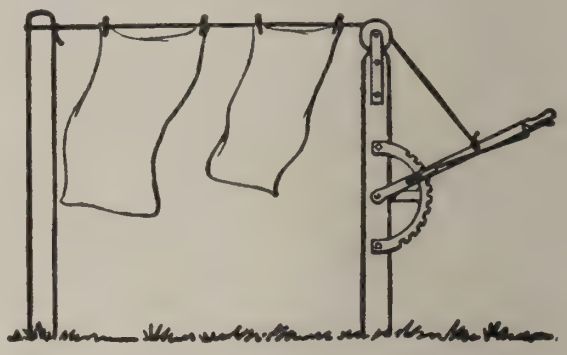
Before I wash a sweater, I lay it on the table on a piece of paper and trace around the sweater. Then I wash it in lukewarm water with mild soap. After it is washed, I lay it on this piece of paper and stretch it to its right size. I never hang up a sweater, I always leave it to dry on the table in the shade.—Mrs. G. B., Wis.

Remove Rust Stains. Rust is perhaps the most stubborn of all stains, but I have found that the following solution removes rust stains, old or new, like magic. To 10 parts of boiling rain water, add one part oxalic acid crystals. Keep this solution on hand. To remove stains, first dampen the material, then apply oxalic acid solution with a medicine dropper. Place in sun for a short time, then wash and rinse well. Never fails, but it is sometimes necessary for me to repeat the procedure a time or two. —Mrs. A. H. E., N. Dak.

Greasing Baking Dishes. Instead of greasing baking dishes with your fingers, save the before and after handwashings by using this handy, sanitary swab. Pinch a small roll of clean, absorbent white cloth with a spring clothespin which forms the handle. Keep it handy in a glass tumbler in warming oven or cabinet. When a clean one is needed, merely scald the pin and insert a fresh cloth. —Mrs. J. L. S., Kans.

Wash New Silk Stockings. Always wash your silk stockings before you put them on for the first time. This sets the threads so that they are less apt to run.—H. D., Iowa.

For Sagging Clothesline. A sagging clothesline will try the patience of any housewife. The sketch below shows how we settled this problem for good. Every farm has waste material for such a job.—J. C. G., Kansas.



Makes Rugs Last Longer. To make my rag rugs last twice as long as usual, I stitch them across the ends on the sewing machine four or five times. I put the first row close to the fringe, and the other rows at intervals of half an inch. This keeps them from raveling out at the ends, and they are, also, much neater.—Mrs. C. E. K., Ill.

Windproof Clothes Prop. I made a windproof clothes prop by bolting a spring harness snap on the end of a pole. This snaps the prop onto the clothesline; then just let the wind try to blow it off!—A. E. W., Mo.

How to Remove Scratches. Match scratches may be removed from paint by rubbing the spot with a flannel which has been dipped in gasoline or by rubbing with a small piece of lemon. Then by rubbing the surface with vaseline any attempt to scratch matches on the old spot will be ineffectual.—L. K., Minnesota.

Dishes Don't Crack Now. After breaking several expensive dishes I learned that by placing a long handled spoon in the dish hot materials could be poured directly into the glass without cracking it.—Mrs. G. B., Illinois.

The Successful Farming Tasting-Test Kitchen

HERE is a glimpse of *Successful Farming's* famous Tasting-Test Kitchen. Experts in cookery work for us, testing and tasting the best of the thousands of recipes which come each month to *Successful Farming* from farm women all over the country.

After months of careful testing in our Tasting-Test Kitchen, *Successful Farming* publishes only the best recipes in its editorial columns and food booklets and leaflets.

You are taking no chances with ingredients, time, and effort when you use a recipe which has the approval of our Tasting-Test Kitchen. And each recipe in "Successful Ways" has been tested and approved by *Successful Farming's* famous Tasting-Test Kitchen.

SELECTION ON FARM FOOD

Meal Planning for the Family

Since the farm homemaker of today is an active and alert woman of many interests, we find her food selection problems much different from those of her grandmother, and even from those of her mother. In the last ten years we have seen the farm woman acquaint herself with every phase of homemaking. Thru her state agricultural college extension courses, thru her daughter's 4-H Club activities, thru *Successful Farming*, and her radio, she is now on friendly speaking terms with vitamins, meal-planning, kitchen equipment, food budgets, and food-marketing problems.

She has learned that she cannot depend upon the methods planned for the city housewife because the food requirements of their families differ greatly.

Meal Problems

Instead of having just one man, the farm homemaker frequently has two or three men for whom to plan and prepare meals. And these men are engaged in heavy outdoor work which requires good, wholesome, energy-giving foods.

If there are growing children in her family there is another food problem always present. Not only must she consider the children's requirements in the family meals, but she must plan wholesome and appetizing school lunches.

Then there are the big days during the harvesting seasons when quantities of food must be prepared for groups which range in number from 15 to 20 at a meal.

In addition to this regular work the farm homemaker has her own club groups to entertain, church suppers to help supervise, and frequently, club-camp menus to plan for her girls and boys.

Her marketing problems also differ from those of the city woman, since she grows some of her own food supply in the garden. She must plan wisely during the winter months to keep the family meals just as well balanced as those she serves during the summer.

The canning budget of the farm homemaker is greatly varied from that of the city woman since she must make her own decisions in regard to home canning plans, and also the foods which she should most economically buy canned. These are only a few of the food problems which are distinctly those of a farm homemaker.

Modern Food Thought

The old superstitions and food "hunches" of her grandmother no longer influence the modern farm woman in planning her family's dietaries. She does not believe that orange juice and milk cannot be properly digested if they are served at the same time any more than she will agree that celery is brain food and carrots will make straight hair curly. The wise homemaker does not tolerate the idea that bulky foods are not nutritious and that people who are interested in dieting should not drink milk.

She will serve spinach or onions for a vegetable at a best company dinner in spite of the fact that someone has said that it is not "stylish." Her good judgment tells her that they are perfectly delicious served with either baked ham or roast lamb. If these guests were eating in the very best hotel, spinach would be given a place of honor along with other vegetables.

Such food fallacies as these prompt the members of the *Successful Farming* Tasting-Test Kitchen staff to impress upon their readers that food preparation and meal planning are not subjects with any petty precautions or style handicaps.

It is true that much depends upon the proper selection of food and its very careful preparation and thoughtful service. Our general health is governed by the food we eat and it will always influence our social activities. Because eating is only a natural process, let us approach the subject of food selection with a sane and sensible viewpoint.

There are a few simple rules to remember and these can be mastered easily by every homemaker. The following discussions and tables will help her in planning wholesome dishes to meet the requirements of every member of her family.

What the Body Requires of Food

1. Energy-giving foods are those which provide heat to keep the body warm and furnish energy to do work. The starches, sugars, and fats fill these requirements.

2. Body-building foods are those which build new muscle, bone, and other body tissues, and also help to replace the old tissues which have been worn away. The foods in this group are the proteins. There are two kinds of proteins: Those coming from animals and those which are derived from vegetables. The table in this chapter clearly indicates these.

3. The body-building and regulating foods are those which help build and repair the tissues and also regulate body processes such as the digestion of food. The mineral foods come in this group. The three most important minerals are calcium, phosphorus, and iron.

Calcium is found most abundantly in milk and milk products such as cheese, cottage cheese, and buttermilk. Other foods which contain a high percentage of lime are almonds, molasses, figs, egg yolk, chard, and turnip tops. Since calcium is very essential for the development of teeth and bones it is necessary for every member of the family to have his quota of milk each day—a quart at least for children and a pint a day for each adult.

Iron is essential in building up the blood cells. For the most effective results iron must be in combination with phosphorus. Iron is found most abundantly in green, leafy vegetables, dried fruits, egg yolk, dried beans, meat, and blood. Phosphorus is found in great quantities in wheat, bran, cheese, egg yolk, clams, almonds, oysters, shrimps, peanuts, English walnuts, pecans, cottage cheese, fish, and meat.

There are six *Vitamins* or members of the protective group. Foods which contain these vitamins are absolutely necessary if the entire family is to belong to the positive health group. A complete table of vitamins is shown on page 117 giving the results of the omission of vitamins A, B, C, and D from the diet.

Vitamin E is present in milk, cereals of whole grain, and green vegetables. This is the vitamin which is necessary for reproduction. Vitamins F and G are also in milk, fresh eggs, vegetables, and fruits. Combined with vitamin B, these vitamins produce growth.

MEAL PLANNING HINTS

When planning the family menus keep in mind that it is the healthy, normal family you are feeding, and select foods for that type. If there are members in the family who need a special sort of diet, the homemaker must plan for them separately.

All special diets should be supervised by a competent physician. Even if it is merely feeding advice for the already hale and hearty baby boy, do not depend upon the neighbors or grandmothers or even yourself entirely. The same applies to those who need reducing or gaining diets. Always remember to follow the physician's instructions.

The diet for the normal family should contain sufficient alkaline-ash producing foods to balance the acid-ash producing foods. All fruits except plums, prunes, and cranberries, and almost all vegetables have an alkaline reaction. These help to maintain neutrality in the blood.

Always serve well-balanced meals. Try to have one food from each classification: Energy, body-building, regulating, and protective foods.

The homemaker today knows that it is not only bad taste but very detrimental to the health of the family to continue serving meals as poorly balanced as was once customary. Because grandmother was afraid she might serve a dish some one disliked, she loaded her table with two kinds of meat, potatoes, macaroni, beans and rice, and topped off the menu with cake and pie. The modern homemaker knows that such a meal is lacking in the essential health-giving foods.

Variety is the big need in every menu. The leftover dinner which is handed down to supper, with possibly last "leavings" appearing at breakfast, is not welcomed by the family with much enthusiasm. If leftovers must be served, it is best not to repeat them the same day. When they do appear, have them so disguised that they cannot be recognized.

Always keep the following suggestions in mind when planning a meal. These are the essentials in a day's diet:

1. One serving of meat or a substitute and one egg.

2. Two vegetables besides potatoes, one of them leafy, such as chard, spinach, cabbage, lettuce, broccoli, kale, or celery.

3. Two servings of fruit, one raw, if possible.

4. A quart of milk for each child and at least a pint for adults.

Bread, cereals, and starchy foods to meet the energy requirements.

The Modern Farm Kitchen

Kitchens are not what they used to be thanks to this machine age which has brought us efficient household equipment designed to save labor, time, and steps.

The development of rural electrification is significant as a labor saver in the home and is influencing the whole plan of rural living. Where electricity is not available, bottled gas is—for cooking, refrigeration, lighting; and now pipe lines are carrying gas thru our farms and there is no distinction in the service offered to rural and city residents.

Equipment Arrangement

A logical working arrangement of equipment is important to avoid expenditure of energy in needless steps. There are five successive steps in normal kitchen routine that determine the arrangement of the work centers. Receiving supplies, preparation of foods, cooking, serving, and clearing away.

Worktable

If the kitchen is a large one, it is a convenience to have casters on the worktable so it may be moved easily. The best location for the worktable is in the center of the kitchen. Here it provides space for dishes taken from the range ready to be served; and then when dishes are removed from the dining table, they may be placed on the worktable preparatory to washing at the sink. Storage space near the sink for dishes, utensils, cutlery, complete the cycle of work when dishes are washed. Arrange equipment so that progress is made from one work center to the next with as little retracing of steps as possible.

Heat Regulation

Oven thermometers are a source of much satisfaction for the oven that is not equipped with a temperature control or a heat indicator. Most recipes now tell just how long and at what temperature to bake so that baking has no longer the pitfalls that

A SIMPLE GUIDE FOR MEAL PLANNING

(Iowa State College Extension Service)

Have Some Food From Each Group in Each Day's Meals

Energy-Giving Foods			Body Building	Body Building and Regulating Foods		Body Regulating	Protective Foods		
Starches	**Sugars**	**Fats**	**Protein**	**Lime or Calcium**	**Iron**	**Roughage**	**Vitamin A**	**Vitamin B**	**Vitamin C**
Breads	Sugar	Butter	Milk	Cheese	Spinach	String beans	Cod-liver oil	Germs of cereals	Oranges
Crackers	Molasses	Cream	Eggs	Milk	Red meat	Cabbage	Butter	Leafy vegetables	Lemons
Macaroni	Sirup	Cheese	Cheese	Buttermilk	Beans—dry	Turnips	Cream	Cabbage	Tomatoes
Rice	Honey	Lard	Lean-meat	Cottage cheese	Egg yolks	Squash	Whole milk	Tomatoes	Raw rutabagas
Breakfast foods	Preserves	Salt pork	Fish		Bran	Celery	Egg yolks	Carrots	Grapefruit
Other cereal products	Jellies	Bacon	Beans		Whole potatoes	Asparagus	Green beans	Peas	Raw cabbage
Tapioca	Dried fruits	Margarines	Peas	**Iodine**	Asparagus	Lettuce	Leafy vegetables	Beans	Rhubarb
Sago	Candy	Vegetable and nut oils	Nuts		Whole cereals	Spinach	Tomatoes	Corn and other vegetables if water in which they are cooked is used	Raw carrots
Potatoes	Cake and Cookies	Peanut butter	Cereals	Codfish	Cabbage	Onions	Carrots		Raw leafy vegetables
Beans and peas	Other desserts			Salmon	Greens	Raisins	Yellow corn		Apples
Bananas				Cod-liver oil	Dates	Dates	Sweet potatoes		Celery
				Oysters	Figs	Prunes	Liver		Watercress
				Tuna	Molasses	Apples	Cheese		Strawberries
				Sardines	Prunes	Bran	Glandular organs	Oranges	
				Other sea foods	Rhubarb	Whole cereals	Peaches	Lemons	
					Apricots	Carrots			
					Apples	Beets			
					Green beans	Parsnips			

Vitamin D—Protective foods containing Vitamin D are: Cod-liver oil, to a less degree in egg yolk, butter.

it formerly had. Many electric and gas ranges are made with oven regulators which automatically maintain any constant temperature desired.

Many coal-wood, gas, and electric ranges, have heat indicators. These are designed to register approximate oven temperatures but they do not control the heat. Sometimes these dials read: "Slow—Moderate—Hot —Very Hot" or "A, B, C, D," or "1—2—3—4—5," or "100—200—300—500." The latter is not to be taken as indicating exact temperature; for example, if the arrow points to 400, you must learn this indicates you have a hot oven; it does not necessarily mean that the oven temperature is 400 degrees.

Modern Utensils

Not only baking but cooking, too, takes on a new way with specially designed utensils. Efficient pots and pans that serve a double purpose—for cooking on top of the range or in the oven; heat-proof glass for baking and serving; refrigerator dishes in which leftovers may be heated—all these have been made to reduce amount of equipment to a minimum and to eliminate unnecessary dish-washing.

Enamel dishes and table tops and refrigerator linings are now made stain-resisting; kitchen knives are of rustless steel; aluminum utensils are of the weight that will not warp; beaters are improved; even mixing spoons fit the curve of the bowl and are comfortable to grip in the hand, and as fast as the traditional petty household annoyances come to light, the manufacturer is doing something about them.

Cooking Terms

The terms given here described the different methods of cooking and combining ingredients.

Baking is cooking in the oven.

Boiling is cooking in liquid on top of stove. Temperature is 212 degrees at which liquid bubbles and rolls.

Braising is a combination of baking and steaming with a small amount of liquid. A covered dish is always used and usually a very small amount of water, altho this varies. Only meats are cooked in this manner.

Broiling is cooking with the direct heat in contact with the food. Sometimes the food is placed above, sometimes below, or in front of the flames or red hot coals.

Pan-broiling is cooking in a skillet without additional fat.

Oven-broiling is cooking directly under the flame in a gas or electric stove. Regular pans are provided for this.

Fricasseeing is a combination of sautéing and simmering. The food is first cooked in a small amount of fat and then water is added.

Frying is cooking in deep hot fat. The food is immersed in the fat and cooked at a rather high temperature (350 degrees to 400 degrees). This term is sometimes confused with sautéing.

Poaching is cooking beneath the boiling point in water, milk, or stock, for a very short time.

Roasting is cooking meat in the oven. Tender cuts require no water while less tender cuts require a small amount of water.

Pot-roasting is braising on top of the stove in a utensil similar to a Dutch oven.

Sauteing is cooking food in a very small amount of fat.

Simmering is cooking in liquid heated and held just at the boiling point.

Steaming is cooking food in steam which is confined in a tight vessel.

Waterless Cooking is using the smallest amount of water possible, using as a container a vessel with a tight cover. The juices of the food aid in this method.

Searing is heating the surface of the food until a coating is formed. It is then usually finished at a lower temperature.

SUMMARY OF VITAMINS

United States Department of Agriculture Circular No. 84, published November, 1929

VITAMIN A		VITAMIN B		VITAMIN C		VITAMIN D (An abundance of outdoor sunshine activates Vitamin D)	
Foods Rich in A	**Deficiency results in**	**Foods Rich in B**	**Deficiency results in**	**Foods Rich in C**	**Deficiency results in**	**Foods Rich in D**	**Deficiency results in**
Whole milk	Low resistance to infections of eye, ear, lung, sinus, and glands	Bread, whole-wheat	Loss of appetite	Fresh oranges	Retarded growth	Fish liver oils	Rickets
Cream		Cereal grains, whole	Lack of growth	Fresh grapefruit		burbot	
Butter		Flour, whole-wheat	Loss of weight and vitality	Fresh lemons		cod	
Cheese		Wheat bran		Strawberries	Scurvy, sore mouth, stiff joints	halibut	Soft bones — Helps to make minerals available to body
Egg Yolk		Wheat germ	Impaired digestion	Cabbage, raw, green		salmon	
Liver oils		Yeast		Lettuce		Irradiated milk	Poor teeth — Helps to make minerals available to body
cod	Inflammation and pus formation in ears and sinuses	Yeast extract		Green peas		Irradiated ergosterol	
halibut		Tomatoes	Beriberi (disease of the nerves)	Turnips	Tooth defects	Irradiated foods	
salmon		Egg Yolk		Tomatoes		Egg yolk	Infections of mouth and throat
Oysters		Milk (whole)	Loss of ability to furnish milk for young	Cherries	Infections of mouth and throat	Oysters	
Liver		Avacado		Celery		Salmon	
Kidney		Bananas		Watercress		Clams	
Watercress		Beef		Bananas		Sunlight, direct	Skeletal deformities
Carrots	Lung, skin, and bladder infections	Buttermilk		Apples	Rheumatism		
Collards		Cauliflower		Cantaloupe			
Escarole		Dates		Chinese cabbage			Lung diseases
Lettuce (green)		Heart		Mangoes			
Cabbage (green)	Weakening of body tissues	Lemons		Parsley			
Spinach		Oatmeal		Pimientos			
Peas		Peaches		Raspberries			
Mangoes	Retardation of growth	Pineapple		Watermelon			
Turnip greens		Pork		Apricots			
Tomatoes		Turnips		Limes			
Kale	Loss of weight	Watercress		Onions, raw			
Avocados				Radishes			
	Possible sterility						

VITAMIN E, necessary for reproduction, is found in the wheat germ and in green lettuce

GETTING THE MOST OUT OF MONEY SPENT FOR FOOD

Food buying nowadays is not the simple process that it was when the greater portion of the food which appeared on the farm table was produced on the farm itself and the grocer chopped sugar, in chunks, from the barrel, and poured his "one grade" of molasses into the purchaser's bucket or pitcher.

The thrifty farm family still gets a fair proportion of its table supplies from the farm itself, but both convenience and thrift demand that this supply be supplemented from the grocer's counters—counters which are nowadays stacked with foods in a variety of forms, qualities, and prices which would have astonished a previous generation.

Many families still make a regular exchange of farm products such as butter, cream, or eggs, for the staple food supplies which they purchase. It is not so often the market price which determines the actual return which they get for these products, as the shrewd intelligence or buying information of the woman (or man) who makes the exchange.

If she buys her rice by the "25 cents worth" instead of by the pounds, if she asks her grocer merely for "a can of peas" instead of being able to get the quality and quantity which best suits her family by selecting, let us say, a No. 2 can of Telephone peas in the X—— brand; if she decides upon a "box of cookies" without considering how much more in the way of a family dessert might be had from the dozen eggs which she is leaving in exchange, she is undoubtedly losing farm dollars which might happily be spent for home conveniences or family vacation trips.

Buying in Quantity

The small package, can, or box has been planned for the city buyer who must pay a high rent for her storage room. For most farm families it is far more economical to buy the largest quantity, or size of package or container which the family can use in a reasonable time without food deterioration.

Experiments have shown that small containers cost from one-fourth to one-third more in proportion than do the large-size ones. Particularly are there real savings to be made by buying in quantity such foods as baking powder, cocoa, flavoring extracts, crackers, peanut butter, maple and other sirup, flour, raisins, dried fruits, and canned goods.

If canned goods are purchased to supplement the home-canned supply, many women have found that both time and money may be saved (provided that the money is available at the time) by working out a budget of canned stuff to be purchased and then buying it in case lots.

The table on page 119 gives this information about some of the most common food staples:

Buying Package Food

Ninety percent of the food bought in grocery stores today is sealed in a package. On every package is printed information which, if read, might mean countless dollars of savings in grocery bills.

Package foods are sanitary, they are more easily handled by both grocer and buyer, and to meet requirements of the Pure Food Law, they are unmistakably labeled with the name of the contents, and its measure, weight or count, the name and place of manufacture, and the percent of any mixture or compound contained therein, which might be in the nature of an adulterant.

This information coupled with a knowledge of the trade brands or name which every manufacturer gives to different grades of his package goods can be a real money saver to the food buyer.

WEIGHTS AND MEASURES AND SERVING OF FOODS

Product	*Market Weight Unit*	*Home Measure Unit*	*Number of Cooked Cups*
Apples (dried)	1 lb.	4½ cups	7–8 cups
Apricots (dried)	1 lb.	3 cups	9 servings
			4½ cups
Bananas	1 lb.	3 medium	
Beans (dried)	1 lb.	2 cups	6 cups
Beets	1 lb.	4 medium	2½ cups
Baking Powder	1 lb.	2¼–3 cups	
Cabbage	1 lb.		5½ cups shredded
Cabbage	2 lbs	½ medium head	4 cups cooked
Carrots	1 lb.	3 large	
		10–12 small	4 cups diced
Crackers, soda	1 lb.	120 (2 by 2 in.)	
Cheese (cream)	1 lb.	2⅔ cups	
Cocoa	1 lb.	4 cups	(128 servings)
			96 cups beverage
			(2 teaspoons to 1 cup)
Cranberries	1 lb.	4 cups	4–5 cups (8–10 servings)
Coffee (medium ground)	1 lb.	4½–5 cups	50–60 cups
Hamburg Steak	1 lb.		2 cups cubed
Flour (graham)	1 lb.	4½ cups	
Flour (white)	1 lb.	4 cups	
Hominy	1 lb.	2½ cups	3 cups (5–6 servings)
Lettuce	9 oz	Average head	10–12 leaves
Lard	1 lb.	2 cups	
Macaroni	1 lb.	3–4 cups	
Molasses	1 lb.	1⅓ cups	
Nut meats (English walnuts)	1 lb.	4 cups, chopped	
Nuts (English walnuts in shell)	1 lb.	4¾ cups whole	1⅔ cups meats
Rolled Oats	1 lb.	5½ cups	2¾ quarts (22 servings)
Onions	1 lb.		About 2 cups cooked
Potatoes (Irish)	1 lb.	3 medium	2 cups mashed
			2½ cups diced
Potatoes (Sweet)	1 lb	2–4 medium	1½ cups mashed
Prunes	1 lb.	2½ cups	3–4 cups
Raisins (seeded)	1 lb.	2½ cups	
Raisins (seedless)	1 lb.	3 cups	
Rice (whole)	1 lb.	2 cups	8 cups or 2 quarts
Salmon	1 lb.	2 cups	
Sugar (brown)	1 lb.	2½ cups	
Sugar (white) (granulated)	1 lb.	2 cups	
Sugar (powdered)	1 lb.	3–3½ cups	
Tapioca (pearl)	1 lb.	2¾ cups	7½ cups
Tea	1 lb.	7 cups	300–350 cups

A package which appears to be a 1-pound size may contain instead only 11 ounces. The label will tell. A can of pineapple which is the same size as a more expensive can, may or may not contain an inferior or less choice fruit. The jug of maple sirup which you comtemplate buying, may be pure maple sirup, half maple sirup, or only very inferior corn sirup with a maple flavoring. The label will tell.

Branded Foods

Especially is it disastrous to attempt to buy canned goods nowadays without being familiar with the labels, for a poor product or one not suited to the purpose is an expensive buy at any price, and the same canned vegetable, meat, or fruit may often be had in dozens of brands, grades, and can sizes.

There are three things the wise food purchaser will know about any canned food which she buys: its brand, grade, and the can size.

The brand is the manufacturer's for his own canned goods. A national manufacturer regards his brand so highly that he does not deviate from a certain standard regardless of when or where he sells the product. Fruit and vegetables of a certain grade of a certain brand will be of practically the same count, quality, and uniformity whether bought in Idaho or Florida and this year or the next.

Grade of Food

The grade of the product tells the condition, quality, and type of the foodstuff inside the can. So it is not necessary for a purchaser to buy the can and wield the can opener in order to find out whether the fruit or vegetable is ripe, sound, uniform in size and shape, or otherwise suited to our purse and needs.

"Fancy," "Select," "Choice," "De Luxe" are grade names usually given to the highest quality of canned fruit, meat, or vegetable. "Standard" is the name uniformly given to the second or medium grade, and "Second," "Sub-Standard," or "Pie or Water Pack" is the label applied to the least choice grade.

In buying canned vegetables ask whether the particular can is Fancy, Standard, or Sub-Standard grade.

Grades of Canned Fruits

Fancy: This grade includes only the choicest quality of firm, ripe fruit of even coloring, and uniform size, and packed in the heaviest sirup. The preparation of the fruit, as to peeling, pitting, and so on, is of the very best type.

Choice or Extra Standard: Fruit in this grade is not so large nor the sirup as heavy as in the fancy grade.

Standard: This is ordinarily a very nice grade to buy since the fruit is of good color and is sound and unblemished, but is merely of a smaller size and put up in a lighter sirup than the two more expensive grades.

Sub-Standard or Seconds: Sound but sometimes slightly discolored fruit of different sizes is packed in a light sirup to make this quality. With additional sweeting it will serve nicely for home use.

Pie or Water Pack: Fruit too ripe to hold its shape and fruit broken in the process of preparation is packed in water with no sugar added. For pie fillings and the making of jams, puddings, and other desserts, this grade is quite satisfactory.

Standard Sizes of Canned Foods

If you ask your grocer for a "25-cent can of tomatoes" you may get from one to four cups of fruit, but if you ask for a "No. 4 can" you may be assured that you will have just four cups of tomatoes to put into the soup kettle or baking dish.

Except for certain products, such as asparagus and fancy meats which are packed in containers of special size and shape because of the very nature of the product, can sizes have been standardized so that the food buyer may get the exact quantity of food which she wishes by ordering the cans by number.

ETIQUETTE

Suggestions for Correct Table Service

"What is the right way?" is a question often asked in regard to the many processes of meal service and table etiquette.

In preparing this practical and simple guide for the busy farm mother and homemaker we have based suggestions made on the fact that there is no absolutely right or wrong way to perform any one process that has to do with serving. Such conventional rules given are those based on natural and sincere manners, upon true courtesy and orderliness. They are, and will be, modified at all times by circumstances, equipment, and convenience.

They can work for you because they have worked for others.

Type of Service. We are considering here only two types of meal service, because we believe that these, well mastered, will cover adequately and pleasantly any requirements of the average family.

1. The *Family* type of service is considered best both for everyday use and for company occasions when not more than 12 or 14 people are to be served.

2. *Buffet* service has proved ideal for use on holiday, party, and other company occasions when more than 12 or 14 people are present.

Family Service. Everyday or Simple Company Occasions—In this type of service the table is set with necessary equipment at each cover or place. The main dishes of food, together with the necessary serving silver, are grouped about the place of the host, usually father. He serves it onto the plates, and passes them to the other members of the family. Mother, as hostess, may serve the soup, salad, hot drink, or dessert in the same fashion, or these may be brought from the kitchen in individual portions. Bread, butter, jam, relishes, and similar accompaniments are placed about the table within convenient reach.

Setting the Table. Suggestions to a daughter or son: The ideal arrangement is for a daughter or a son regularly to assume responsibility for setting and waiting on the table. If there should be both daughter and son, the duties may be shared, but definitely, with certain last-minute responsibilities such as filling water glasses or seeing that chairs are in place.

Simple Service. In the *Family* type of meal service, the table is set in the same fashion whether the occasion is a simple family supper or a company dinner, except that the choicest of family linen, dishes, and silver will undoubtedly be saved for the latter event.

Table Covering. Choices in the table covering are many. Cleanliness and cheer are the only requisites. A bare and gayly lacquered table top, crash runners or doilies, brightly dyed squares of muslin or Indian Head, paper or cloth doilies, or one of the new washable fabric coverings may all serve as foundations for pleasant home meals. Nothing is nicer, for home or company occasions, of course, than a real damask cloth of snowy whiteness. Preferably such a cloth should hang over the table edge, at least ten inches on all sides, should have but one crease and that running thru the exact center, lengthwise, and should be laid over a protecting pad of heavy flannel, asbestos, or felt.

Table Decoration. A table decoration is as essential on an everyday as a company occasion. A vase of red field clover, a pot of winter parsley, a bowl of coned evergreens, a low bouquet of garden flowers, even an old dish of bright gourds or fruit, will serve. Whatever it is should be low enough so that no one need play hide-and-seek about it to talk with a neighbor across the table; and it should most assuredly be colorful and gay.

Placing Covers. The secret of achieving a handsome table is not in the type of dishes, silver, or glassware that is used, but in the orderliness with which they are arranged.

Think of the table, when you set it, as a collection of covers, balanced in placing and uniformly arranged. A "cover" means simply the silver, china, linen, and glass for one person. Allow 20 inches of space for each cover if possible.

Father's place will be at one end of the table or the foot; mother's place at the opposite end or head. If mother must wait on the table herself she sits nearest the kitchen door.

Silver. Place all silver before the meal is served except perhaps the dessert silver which may be placed then or just before the dessert itself is brought to the table. Silver is always placed in the order in which it is to be used, from the outside of the cover in.

Knives and spoons are placed at the right side of the space left for the plate; knives going nearest the plate and with the cutting edges turned in. Spoons are placed to the right of the knives with the bowls turned up. Forks go to the left of the plate space and with the tines up, with the exception of the tiny oyster fork, which, should it be used, is placed at the extreme right of the spoons. To place all silver with the handles an even 1 inch from the edge of the table gives a "ship-shape" look to the table. Use only such silver as the meal requires. If knives are not to be needed, omit them and place both forks and spoons at the right, the forks going into the place usually reserved for the knives. The water glass goes at the tip of the knife.

Linen. Napkins, whether of paper, fringed muslin, or damask, are folded in neat squares or oblongs and placed either to the left of the forks or in the plate space between the knife and fork. In either case the lower edge of the napkin should be even with the end of the fork handle, and the open corner turned inward and toward the right.

Paper napkins may be purchased in quantity for home use, if time does not permit the laundering of the cloth variety. By all means use napkins of some sort.

Bread and Butter Plates. Some families like the use of the bread and butter plate. This is a small plate which is placed at the tip and a trifle to the left of the fork and used for breadstuffs and its accompaniments—not for relishes, pickles or main dish accompaniments of that sort. A bread and butter spreader, if used, is placed at the far edge of the bread and butter plate and with the handle turned toward the right or at the right side of the plate with the handle parallel with the rest of the silver.

Salt and pepper shakers are placed at the corners of the table.

Jelly, butter, bread, and relish (never more than one of each) should be placed on the table before the family is seated, and with the serving spoons, knives, or spreaders laid, not in the food itself, but on the table beside the dish. Here again, to remember the "rule of right angles" helps the appearance of even a crowded table.

Salad Serving. Before you have finished with setting the table you will need to know whether or not there is to be a salad and how it is to be served. There are three possibilities. Should the salad be one of the substantial main-dish sort, like a meat or a rather bulky vegetable salad, then father may serve it onto the plates with the rest of the food, and the extra plate may be dispensed with. In that case merely see that there is a serving spoon for the salad placed at the host's place.

The custom of having mother or the hostess serve the salad at table is a nice one, particularly on occasions when time allows a leisurely meal. Should that be the family custom, merely place the individual salad plates directly in front of mother's cover. The salad bowl and dressing or the chop plate with the individual salads or salad ingredients arranged upon it will be placed directly in front of the plates, or toward the right.

Probably the favorite custom is that of serving the salad in the kitchen and placing it on the table before the meal starts. Such a plate is correctly placed either to the right or left or even directly in front of the cover, depending on the number of persons seated.

Hot Drinks. A hot drink is served frequently by mother at table. Cups, saucers, sugar, cream, and the hot tea or coffee pot are all arranged in orderly fashion at the hostess' place. The pot goes preferably at the right with handle turned outward, and sugar and cream directly to the front of the cover, allowing only enough space between for the neat pile of saucers and the cups arranged with handles turned conveniently toward the right.

Serving Silver. Carving knife and fork, if needed, are placed at each side of the space reserved for the platter at father's or the host's place. Spoons for the potatoes, gravy, and vegetables are placed beside the space allowed for each dish or in a uniform row at the right of his own silver.

Water Glasses. At the last minute fill the water glasses three-fourths full; place the chairs evenly and with the front edges just even with the table edge; put the stack of warm plates at father's place adjusting the silver at his cover, if necessary, to make way to the hot dishes, and put the hot food in place. The platter or chop plate which holds the roast, a main vegetable dish, or a meat combination should go directly in front of him. The other dishes are placed at the right or left and within convenient reaching distance. If the table top is not well protected use mats or padded doilies under the hot dishes.

Serving Hot Drinks. Place the hot coffee, tea, or chocolate pot at mother's place, if she is to serve the drink, or bring in the filled cups from the kitchen and place them at the right of each cover, using saucers, of course.

Table Manners. The first rule of good table manners is promptness at meals. If there is no daughter or sufficiently grown son to relieve mother of the responsibility of getting the food onto the table, then the task of getting the littles ones in place and inspecting clean hands and faces should most certainly be father's.

Everyone remains standing until mother is seated. There will be no jostling or confusion if each member sits down from the left of his chair and with as little moving of the chairs as possible. It is not an affectation but the nicest sort of everyday courtesy for father to pull out daughter's chair as she is seated, or for an elder son to seat mother in the same fashion.

Napkins. Napkins are half unfolded in the beginning, following mother's example, and are laid in that fashion across the knees, rather than tucked into the clothing, by all those who are beyond the less controlled "bib age."

Father serves the food, passing the first plate to mother, the next to the person on her right, and so on down the right and then the left side of the table. Or it may be family custom to serve mother and then the guests before serving the rest of the family. Either method is entirely correct. A quietly spoken, "And this is for you, Mrs. B——," from father, may relieve the mind of any "company person" who is not acquainted with the family custom.

Side Dishes. The use of side dishes for vegetables is limited largely to restaurants nowadays, probably because we are considering the vegetable more essentially a main dish than did an earlier generation.

Mother takes the initiative in everything. It is she who starts eating first, who sees that bread, butter, jam, and perhaps the gravy (if it has not been served with the plates) is passed. She makes no apologies for either the food or its service. It may require some self discipline for her not to let the guests know that she is perfectly conscious that the roast is burned or underdone and to explain how unavoidably it all happened, but to do so would embarrass the guests and call attention to something which is probably not nearly as evident as she feels it to be.

A family rule absolutely forbidding any comments at table as to the food, its quality, or personal appeal should be made. It will pay splendid returns in helping to develop poise and courtesy, and fine natural appetites. It will also help to avoid the passing on of food prejudices and addictions from the older to the younger members of the family. However, mother and father are the ones to set the absolute example in this matter.

During the meal, father watches the emptying plates and recalls them for second servings. A pleasant family rule, not enforced upon guests of course, is that of allowing no second serving until the plate has been entirely cleared. This avoids over-indulgence in any particular food, and does much to accustom prejudiced palates to unfamiliar or unliked foods. If guests are present mother accepts a second serving first, so that they may feel free to do so, and she remains eating until the last guest is thru so that no one will feel obliged to lay down his fork until he is perfectly satisfied.

Clearing Table. In clearing the table for the dessert, daughter removes bread, butter, relishes, and all serving dishes and silver first. Following that she removes one cover at a time with the exception of the dessert silver and the water glass or coffee cup. She does this, going always to the left side and reaching first with the left hand as easily as possible. To use the left side service entirely in both placing and removing dishes, going to the right only to place coffee cups or to fill water glasses materially simplifies any form of meal service. A tea cart or wagon can save dozens of steps both in setting and clearing a table.

Special Suggestions. In the carrying out of the Family type of meal service, so much depends upon the willingness of father or the head of the family to assume his share of responsibility that we are giving these special suggestions for his persuasion.

If father realizes that by actually assuming his position as "head" at table and overseeing the service of the food, he cannot only relieve mother of a great deal of unnecessary responsibility, but can help to center the whole family group about a cheery family occasion, he will be more nearly in the mood to give the system a trial.

Carving. Many men have been more kindly disposed toward carving roast or even fowl at the table since it has become not a fashionable but rather a nice homey, old-fashioned thing to do. But don't frighten father with a dish which requires real skill to dissemble, until he can make an attractive plate of such simply served foods as mashed potatoes, sliced meats, and creamed vegetables.

Many a 13 or 14-year-old son, with a bit of coaching, can be ready to slip into an absent father's place at the table and perform with real skill and pride the duties connected with that position.

Quiet explanations or suggestions given between meals, or round-table family discussions of table manners and courtesies will accomplish what dozens of direct criticisms at the table itself cannot do. It is the repeated, "Johnny, take your spoon out of your cup!" or, "Johnny, don't reach in front of your sister," "Johnny do" this and "Don't do" that, that toughens Johnny's little conscience until threats and actual punishment may fail to make anything but a "table hoodlum" of him.

Waiting on the Table. At home, plan to have on the table everything necessary for the main part of the meal before the family sits down. Watch the bread and butter plate, and the serving dishes; when they need refilling leave the table quietly and replenish them, but take care of several things at the same time so that you do not need to be constantly "bobbing up and down."

Serve and remove everything from the left side (with the exception of water or a hot drink) and with the left hand, approaching the table at an angle rather than shoulders forward so as not to bump disastrously into an elbow or forearm.

When filling water glasses leave them in their places if space at table permits, or move the glass only to the outer edge of the table. Have a napkin in the left hand ready to catch any drips from the pitcher.

Remember that everything pertaining to one course should be removed before another is served.

Should you be passing food to individual guests, hold the dish to the left of each person and low enough so that he may help himself easily.

Should a guest or a member of the family upset a water glass or have an accident at table, it is your place to repair or cover up the damage as quickly and as quietly as possible.

Buffet Service. (Suitable for any number of guests.) The buffet, or as it is sometimes called "cafeteria" type of service, is an ideal one where guests are many and table space is limited. In this service the food, silver, and linen are arranged attractively on one large table (and perhaps an additional serving table) and the guests help themselves to whatever they may wish and eat either from trays held on the lap or from small tables which have been placed conveniently about the rooms.

These smaller tables may be covered attractively with lunch or paper cloths and provided with decorations, napkins, and even silver and glasses. In this latter case the trays may then be eliminated, for each guest may easily carry on his plate whatever food he may select.

The advantage of the Buffet method of meal service is that more guests may be easily accommodated in less space. The responsibility for smooth service is shifted from the hostess to the guests, leaving the former free to add what she may to the pleasant spirit of the meal.

Food for Buffet. A meat course and a dessert are all that are essential for the most festive meal. A wise hostess will plan for foods which will require a minimum of silver and dishes and which are neither too "runny" nor too compact to handle. With a meat loaf and sandwiches or

buttered rolls the knife may be omitted. One or two hot main dishes, sandwiches or a hot bread, a substantial salad, and an appetizer make a convenient first course. Pies, a gelatine dessert, shortcake, or ice cream are favorite buffet desserts.

Make the table as attractive as possible, placing only one course upon it at a time to avoid crowding. Flowers, a basket of polished fruit, or a seasonal decoration and candles make attractive centerpieces. Doilies, runners, or the conventional tablecloth make suitable table coverings.

Silver and China. Arrange the silver, china, and food on the table in an orderly and consistent manner so that the main foods may be put on the plate first. Then the accompaniments, the breadstuffs, and so on, in the order of their importance, ending with the silver, napkins, and the beverage.

Since it is often difficult, while holding a plate or tray, to serve one's self to food requiring an implement, many hostesses avoid this difficulty by having a daughter or friend seated at the head of the buffet table in order to serve the main dish.

The hostess merely asks the guests to help themselves to second servings when they are ready or she may pass the dishes about to them. On informal occasions she may even ask certain ones of the guests to assume responsibility for repassing certain dishes. The latter method is probably the nicest method of all from the standpoint of informal holiday or family get-togethers since the "company" usually enjoys this bit of responsibility as much as the hostess appreciates freedom from it.

Ideally, the food for the first course is cleared from the buffet table when everyone is thru with it, and the dessert and dessert silver is put in its place.

Guests may then be asked to place their used plates upon a convenient serving table and to help themselves to dessert. Or sometimes the hostess or some selected guests clear the trays or small tables and place the dessert.

Entertainment. Special place cards made by the children, gay caps, and holiday novelties as well as bright paper cloths and napkins which may be burned after use, can make the table so attractive that the most unmanageable child would not think of leaving voluntarily until the meal is over.

To serve the children's plates in the kitchen, planning each one according to the age and special needs of the child, seems to be the favorite custom, regardless of what type of service is being used for the adult meal.

Simple Hints on Table Etiquette. Would you choose to be embarrassed or be uncomfortable yourself rather than to cause any one else to be so? If so, then you have passed one of the simplest tests of true courtesy and good breeding.

Things to Do and Not to Do. Whenever you are in doubt as to the "proper" thing to do, either select the course of action which will cause least discomfort to others or ask.

Do not air your dislikes for food at the table. If a food is served which you do not like, the least which you can do is to say nothing.

If you have a long list of food dislikes, it stamps you as a person of small vision. The broad-minded person of today has a normal like for practically all types of foods and eats cheerfully whatever he may be served.

Sit easily and naturally but do not lounge at the table. Do not fumble with the water glass, make "crumb pies" on the tablecloth, or finger the silver aimlessly. Keep the hands in the lap when you are not eating and keep the elbows at the sides.

The napkin remains in the lap when not in use. Besides protecting the clothing, it may be quietly used to dry the lips. If you should be compelled to sneeze at table, however, cover the mouth and nose with the handkerchief, not the napkin, and turn the head away.

Using Silver. To handle the silver correctly is a test of good breeding. Since forks have been invented the knife has been used only for cutting and for spreading butter on bread. When not in use it should be kept on the plate. In cutting meat the American custom is to hold the knife in the right hand with the forefinger running along the back of the blade near the handle. There is a new type of silverware which has a long handle and short blade which prevents placing the finger on the blade. The fork is held in the left hand with the tines down. In carrying food to the mouth, however, we transfer the fork to the right hand and keep the tines up. The European custom is just the opposite. People on the continent carry the fork to the mouth in the left hand and with the tines down.

When to Use Fork. Use a fork to eat salads, meats, cocktails, all vegetables except artichokes and corn on the cob and very "soupy" creamed vegetables, soft cakes, soft or open sandwiches, and any other food not more easily handled with the spoon or fingers.

When to Use Spoon. Use a spoon for soups, stewed fruits, cereals, soft desserts, such as custard and tapioca puddings, for oranges and grapefruit served in the skin, and for hot drinks.

The fingers may be used for such foods as bread, crackers, cookies, firm cakes, firm cheese, nuts, celery, olives, small cucumber pickles, grapes, corn on the cob, potato chips, candy, crisp bacon, and many fruits.

Never leave a spoon standing in a cup or sherbet glass. Spoons thus at half-mast have caused many an accident.

Do not gesture with your silver or hold it idly in the hand while carrying on a conversation at the table. Help yourself from any dish that is passed with the serving silver which accompanies the dish, and not with your own.

When eating soup dip the spoon away from you and drink from the side and not the tip. "Like little boats put out to sea, I dip my spoon away from me."

Crackers are eaten from the fingers and as an accompaniment to the soup and not crushed into the soup bowl.

Never butter a whole slice of bread at a time, nor take a bite from a whole slice. Merely break off a portion sufficient for two or three bites and butter that amount, holding it in the hand during the operation, rather than laying it on the plate or tablecloth.

When eating corn on the cob break the ear in halves and hold it in one hand, only, while eating, unless the ear is fitted with holders.

Should you be asked to have a second serving of food reply quietly, either "Yes, if you please," or "No, thank you." But remember that it is more complimentary to the hostess to accept a second serving than not.

If any accident occurs do not give it undue attention. Should the fault have been yours a brief and quietly spoken apology to your hostess is all that is necessary. Too much embarrassment on your part will make both her and the rest of the people at the table uncomfortable.

Never criticise the table manners of others, particularly those of older people. Customs change and what seems strange and curious today may have been the best of form only a generation ago.

QUANTITY COOKING

Menus for Community Groups and School Lunches

Quantity cooking requires real skill along many lines if it is to be done successfully. The types of quantity cooking which the farm woman does are varied and require special attention. In this group comes the Farm Bureau meetings, church or lodge suppers, and school lunches. Many times picnics and even 4-H Clubs and women's camps require well-planned menus.

It is keenly felt if food is omitted from some of these gatherings since, after all, they are friendly get-togethers and form a part of the social life of the farm people.

The repast may vary from the lightest kind of an afternoon or evening refreshment to a nourishing evening dinner or banquet, but whatever the occasion is, out of it arises the question of what and how much food to serve and how to serve it.

Refreshments

Refreshments are usually served as a conclusion to an afternoon or evening meeting. There is a general tendency to overdo this type of lunch, especially at night. Rich cake and salads at a late hour may be responsible for fretting, wakeful children and for heavy-eyed adults with crooked "morning-after" mental slants at next day's problems.

Many communities have completely revised their evening lunch plan to include never more than one or two things besides a drink—something warm for the cold months, something cooling for the hot ones, and provisions made always for the children.

Fall

LIGHT LUNCHES FOR AFTERNOON OR EVENING

1. Sugar Cookies Sweet Cider
2. Raisin-nut Sandwiches
   Hot Cocoa

Winter

3. Oyster Stew Crackers
4. Scalloped Potatoes Sandwiches
   Celery
   Coffee or Cocoa
5. Fresh Cinnamon Rolls
   Coffee or Cocoa

Spring

6. Chocolate Milk Spice Cakes
7. Strawberry Ice Cream Cookies

Summer

8. Fruitade
   Fresh Gingerbread Squares
9. Raspberry Lemonade or
   Fresh Grape Juice Filled Cookies
   Fresh Fruit
   (*Suitable for Child's Party*)
   Peach Ice Cream
   Angel Cake
   Salted Nuts
   (Omitted for child's party)
   Coffee

AFTERNOON AND EVENING REFRESHMENTS

1. Open-faced Sandwiches
   a. Brown bread with soft cheese and garnish with nutmeats
   b. White bread spread with sardine or chicken paste and garnished with sliced stuffed olives and mayonnaise
   Assorted Pickles
   Coffee or Tea
   Hard Candies

2. Chicken or Tuna Salad
Cheese Crackers
Spiced Crab Apples
Coffee or Chocolate

3. Perfection Salad
Small Toasted Cheese Sandwiches
Cocoa or Tea

4. Strawberry Shortcake
Coffee
(*Afternoon Tea*)

5. Tiny Sandwiches
Ripe Olives
Assorted Tea Cakes
Tea
Mint Candies

Quantities in Cooking

In determining the amount of food for a large group it is often helpful to figure the amount to be served to one person. One-half cupful of mixtures, such as salads, creamed, or scalloped dishes, baked beans, fruit sauces and puddings is sufficient for one person. Quite a general rule to follow in serving these same foods is to allow 1 gallon of food for 25 people. One-quarter of a pound of meat for steaks or roasting is the allotment for one. This may seem generous, but when cooked, it will shrink, and portions of bone and skin will need to be discarded.

Butter—1 pound makes 40 pats; 2 pounds will spread 100 sandwiches.

Cream—1 quart is sufficient for 40 cups of coffee. One quart of whipped cream will make 50 desserts.

Sugar—1 pound gives 100 cubes.

Coffee—1¼ pounds will make 50 cups.

Lettuce—6 large heads serve 50 persons.

Ham—13 pounds serve 50.

Beef—20 pounds serve 50.

Pork—20 pounds serve 50.

Veal—15 pounds serve 50.

A 3½- to 4-pound chicken gives 1 pound of cooked meat.

Twenty pounds of potatoes pared and mashed give 50 servings.

Menus for Summer Camps

In general, camp menus may be planned according to the same rules as the regular home meals. There is one important difference, however; heartier food and more food is required. The rigor of out-of-door sports sharpens appetites.

Breakfast and dinner should be the two heartiest meals of the day. Let them include foods that "stick to the ribs" for they are followed by the strenuous activities of the camp day.

Supper should be the lightest meal of the three because "lights out" follows so closely upon its heels. A nourishing and easily digested supper allows for a refreshing night's sleep.

Fruits and vegetables should occupy a foremost place. If possible have the fresh seasonal ones. Make use of all that can be procured from the home gardens and orchards. For convenience there is always the canned variety.

Plenty of whole cereals should be included in the menus. They may take the form of breakfast foods, muffins, breads, biscuits, or even steamed puddings, cookies, and other desserts.

It is not essential to have meat more than once a day, nor even that often. Many camps plan for meat only four times a week. Eggs, cheese, peas, and beans can be used freely to furnish the main dish for both dinner and supper.

The following week's menu meets the daily food needs of healthy campers with campers' appetites.

Monday

BREAKFAST
Stewed Dried Apricots
Ready-to-eat Cereal
Soft-Cooked Eggs
Graham Toast Butter
Cocoa

DINNER
Scalloped Lima Beans and Tomatoes
Spinach
Whole-Wheat Bread Butter
Steamed Cherry Pudding

SUPPER

Lettuce and Peanut Butter Sandwiches
Cabbage, Apple and Raisin Salad
Pear Sauce Hermits
Milk

Tuesday

BREAKFAST

Orange Halves
Oatmeal Porridge
Crisp Bacon
Whole-Wheat Bread Butter
Hot Nourishing Drink

DINNER

Kettle of Roast
Pan-browned Potatoes
Buttered Green Beans
Graham Bread Butter
Apple Pandowdy

SUPPER

Corn Chowder
Crackers Lettuce Salad
Fresh Elderberry Cake
Milk

Wednesday

BREAKFAST

Sliced Bananas
Ready-to-eat Cereal
Poached Egg and Graham Toast
Cocoa

DINNER

Sheperd's Pie Creamed Onions
Buttered Carrots
Drop Biscuits Butter
Peach Roly-poly

SUPPER

Tomato Rarebit on Toast
Succotash
Whole-Wheat Bread Butter
Prune Whip

Thursday

BREAKFAST

Stewed Figs
Ready-to-eat Cereal
Baked Sausage Johnny Cake Butter
Hot Nourishing Drink

DINNER

Frizzled Dried Beef Baked Potatoes
Turnip Greens
Rye Bread Butter
Strawberry Shortcake

SUPPER

Campers' Spaghetti
Cold Slaw
Baking Powder Biscuit Butter
Honey Milk

Friday

BREAKFAST

Stewed Rhubarb
Indian-Meal Mush
Bacon
Toast Butter
Cocoa

DINNER

Braised Veal Potatoes au Gratin
Stewed Tomatoes
Whole-Wheat Bread Butter
Jellied Fruit

SUPPER

Cheese Fondue Vegetable Salad
Muffins Butter
Coconut Baked Custard

Saturday

BREAKFAST

Canned Sliced Peaches
Pan-fried Indian Mush With
Maple Sirup
Sirup
Cocoa

DINNER

Baked Pork and Beans
Apple, Date and Nut Salad
Boston Brown Bread Butter
Doughnuts Milk

SUPPER

Cream of Tomato Soup
Lettuce, Cottage Cheese and Jelly Salad
Raisin Bread Butter
Fresh Fruit
Chocolate Drop Cookies

MENUS FOR COMMUNITY DINNERS

Which may be served for pleasure or profit

Fall

1. (*Harvest Home Supper*)

Oyster Stew, Chicken Noodle Soup, or Vegetable Beef Soup
Crackers Celery Dill Pickles
Baked Beans Brown Bread
Spiced Peaches
Cookies Ice Cream
Coffee

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2. Real Chicken Pie
Mashed Potatoes Green Beans
Cranberry Salad
Hot Biscuits Mixed Pickles
Hot Apple Sauce Whipped Cream
Coffee

Winter

3. Baked Ham With Horse-radish
Candied Sweet Potatoes
Scalloped Corn
Tomato Jelly (or Perfection Salad)
Buttered Rolls Plum Jam
Cinnamon Apple Sponge Cake
Coffee

4. (*Inexpensive Menu*)

Chicken Chinese
(Chicken and Macaroni)
Baking Powder Biscuits or
Hot Muffins
Cabbage Salad
Cranberry Jelly
Pumpkin Pie Coffee

5. (Simple Menu to be served at 50 cents with a 50 percent profit.)
Beef Stew With Noodles
Mashed or Baked Potatoes
Harvard Beets
Graham and White Bread
Cottage Pudding With
Butterscotch Sauce or
Apple Brown Betty
Coffee

Spring

6. (*One-dish Meal*)

Scalloped Ham and Potatoes
Pineapple and Carrot Salad
Hot Rolls Jam
Spice Cake Butterscotch Sauce

7. (*Spring Banquet Menu*)

Mint Fruit Cup
Veal Birds
Creamed New Potatoes and Peas
Buttered Asparagus
Spring Perfection Salad
Radish Roses Stuffed Celery Sticks
Clover Leaf Rolls
Fruit Sherbet Assorted Cakes
Nuts Coffee Mints

Summer

8. (*Cafeteria Meal*)

Baked Ham Scalloped Potatoes
Sliced Vegetable Salad
Rolls Pickles
Current Jelly
Berry Sundae Cookies
Iced Tea

+ + +

STANDARDS IN COOKED FOODS

A Knowledge of Food Standards Supplants "Luck"

A generation ago, any definite comparison of cooked foods would have been difficult. Cooking then was an individual thing. We spoke of "luck" instead of "food standards." Even recipes could not be exchanged with a certainty.

Every woman had her own particular size of crockery or ironstone cup. Measurements were given indefinitely in terms of "to thicken" and "to taste." As a result, a nut-bread recipe which might produce a glorified golden loaf in Aunt Martha's kitchen might bring forth but a drab and heavy failure for Cousin Kate.

Nowadays Aunt Martha in Idaho and Cousin Kate in Florida may never have looked inside the other's pantry, but the measuring cups and spoons which they buy, each at their own local stores, hold almost to the drop the same amount of salt, milk, or flour. And the recipes which they clip, each from their own favorite farm sheet or woman's page, are planned definitely for measuring utensils of just that size.

More than that, the excellence of the pies, the cakes, and the bread-stuff which each will produce in her own kitchen (with the use of those standard measuring utensils and from those standard recipes), will not be in any way a matter of "luck" nor even of blind experience. Rather will it depend upon the picture which each may carry in her own mind as to what constitutes a really good cake, pie, or loaf of bread, and what causes the faults which prevent superior baked stuff.

Habitual judgments combined with a knowledge of what constitutes really good food, cannot fail to make better cooks, raise home table standards, and make for better nourished families.

Judging Your Own Food Products

Many women have made a practice of yearly entering samples of their own canned and baked goods at fairs and institutes. They say that after a time, products which they might, in the earlier days of their exhibiting experience, have considered quite excellent, begin to look very mediocre and to show flaws which at one time they would not have noticed.

The change in viewpoint is natural. The exhibiting experience has simply raised and developed standards as to what constitutes really good food.

Scoring Own Food

The habit of being "judge" of the food which is prepared in one's own kitchen will do wonders toward making an excellent cook out of an ordinary or even a poor cook.

The simplest score card which we apply to any cooked product is the following:

1. Does it look good?
2. Does it feel good?
3. Does it taste good?

In other words, appearance, texture, and flavor are the three important characteristics of any food. More definite score cards with variations and subdivisions of each of these points are often used by judges in judging culinary exhibits and by ambitious cooks in their own kitchens. Some of the most interesting and helpful of these may be found on the following pages.

What Is Good Bread?

It is not necessary to have peeped into the kitchen on bread-baking day to know just how the bread-making process was carried out. A careful inspection of the finished loaves will give a graphic picture of just what ingredients were used and how each step in the mixing process was handled.

SCORE CARD FOR BREAD

	Percent
Appearance: 25	
Shape and size	10
Crust (color, depth, crispness, tenderness)	15
Texture and Crumb: 45	
Lightness	15
Color of crumb	10
Fineness and uniformity of grain	10
Softness and springiness of grain	10
Flavor: 30	30
	100

White Bread

The regulation bread score card given above will show that the ideal loaf of white bread is oblong in shape, has smooth, straight sides, and no bulges to mar its uniformly rounded top. The crust is an even $\frac{1}{8}$ inch in thickness and has a surface free from cracks and creases. It also is of a nice golden color on top, sides, and bottom, has a slightly shredded appearance just above the pan, and boasts a texture which is tender and crisp.

The inside of the loaf is a creamy color, with no dark streaks showing at the top or sides when the cut slice is held to the light. The many cells are small and even in size and no larger at the top than at the bottom of the loaf. More than that they give easily under finger pressure and spring back readily when the finger is removed.

The flavor is the natural sweet, nutty flavor of baked grain with no sour, flat, or "yeasty" odor.

Whole-Wheat and Rye Bread

Many cooks become discouraged because they cannot secure the same texture in their whole-wheat as in their white bread. In attempting to do this they cut down the quantity of whole-wheat flour used. This robs the loaf of the rich "nuttiness" of flavor which a really good grade of this whole-cereal flour will give, and results instead in an inferior nearly-white loaf.

The ideal whole-wheat loaf (tho it may be scored by the same score card as the white loaf) has a texture and flavor all its own. In size it is inclined to be smaller and more compact than the lighter loaf. In color it is a deeper brown but is *brown* rather than gray in cast. Its flavor is richer, being more nearly that of freshly cracked and toasted nuts. And its texture, tho just as even, will be a trifle more compact, slightly crumbly, and less springy than the crumb of the white loaf.

The particular grade of whole-wheat flour used will determine to a large extent the flavor and texture of the finished loaf. The more closely the flour approaches that made from the whole grain, ground, the finer a loaf it will give.

Traces of strong molasses and sorghum are extremely objectionable in both whole-wheat and rye breads. And no rye or whole-wheat loaf is worthy of the name unless it has enough of the named flour to give it a really "whole-wheat" or "rye-like" taste.

Rolls and Coffee Cakes

In rolls and coffee cakes we rather expect and allow more variation in size and shape, than in a standard loaf of bread. The nicest roll is never, however, so large as to be difficult to handle nor to contain more than one serving for even a child. (Two rolls to a serving is considered a standard.) More than that it should not be higher than it is broad, nor so flat as to be uninteresting.

Both rolls and coffee cake may be sweeter in flavor and richer of crumb than the corresponding kind of bread. Coffee cakes are made in any size and shape that will allow ease in handling and the cutting of uniform servings. The ideal coffee cake is not so heavily ladened with fruit or spices.

Common Defects in Bread

If your bread is not all that you would like to have it, actually scoring it by the bread score and then checking the cause of its defects by the following table will give you real assistance in improving its quality:

1. *Poorly Shaped Loaf*:
   a. Not well molded originally, too much dough for pan, last rising period too long, oven too hot at first, loaves not being baked in separate pans.
2. *Poor Crust*:
   a. Cracks caused by baking before sufficiently light, oven being too hot at first, loaf being cooled in a draft.
   b. Thickness caused by oven too slow, being baked too long, or an excess of salt.
   c. Toughness caused by not enough shortening, too much kneading, poor flour, or oven lacking moisture.
3. *Poor Interior of Loaf*:
   a. Heaviness or sogginess caused by yeast being killed during rising period (too hot), insufficient rising, insufficient baking, or too much shortening or salt.
   b. Dark patches or streaks caused by placing loaf on hot oven to rise, adding shortening to liquid before flour, or using poor ingredients.
   c. Dry and crumbly caused by too lengthy rising periods, too much flour in dough, overbaking, or too much sugar.
   d. Coarse grain caused by too high a temperature during last rising, last rising period being too long, or oven being too cool at first.
4. *Poor Flavor*:
   a. Sour taste or odor caused by rising periods too long or too hot (allowing formation of acetic acid), poor yeast, stale bread starter, or milk not scalded.
   b. Flatness caused by lack of salt or sweetening.

Good Quick Breads

If your nut-breads, gingerbreads, corn "cakes," muffins, and biscuits are not just what they should be, your family is missing a dozen opportunities a week for delectable bread variation in their diet.

Each quick bread has certain essential requirements of its own in the matter of handling, but the one common and particular characteristic which we expect of any one of them is lightness. That, a rich flavor, and a crisp, golden-brown exterior, will satisfy the highest standard for this type of breadstuff.

Muffins

The secret of good muffins is a quick and rather scanty blending of ingredients. If your muffins have humps and knobs on top and tunnel-like holes inside, you are stirring them too long. Twenty strokes is usually sufficient to wet all ingredients in a standard recipe. A really smooth and thoroly mixed batter is not desirable since it produces a heavy, poorly shaped muffin, with an inclination toward toughness.

Baking Powder Biscuits

A thoro mixing on the other hand (with even a slight additional kneading on the board) seems to be the secret of producing high, light, and fluffy baking powder biscuits. Good biscuits are symmetrical in shape with smooth vertical sides, level tops, and no tendency to bulge or flatten out. Their tops are smooth and covered with a tender golden-brown crust. The inside is a creamy white in color, and flaky, soft, and fluffy in texture. A bite of such a biscuit melts in the mouth and leaves no trace of soda or baking powder flavor.

If your biscuits are soggy, you are undoubtedly using too much liquid and thus allowing the carbon dioxide to escape too soon thru the moist dough. If they are rough, solid, and unattractive in appearance, you are not mixing or kneading your dough for a sufficient length of time. Tough, hard biscuits result generally from too slow baking or from the use of a poor grade of flour. They may result from overmixing the dough, but unless the mixture has been too moist this is not apt to have been the case, since the average biscuit baker undermixes rather than overmixes her biscuit dough.

Cornbreads

Standards for cornbreads differ somewhat in various parts of the country, but the majority prefer a plump, crisp, and golden bread with a soft flavorsome interior. The grainy quality found so often in modern cornbreads and "Johnny cake" is quite frequently due to the grainy quality of the "new process" non-molding corn meals which are now on the market. Moistening such a meal with an equal quantity of hot water and allowing it to absorb the liquid and to cool before it is used in the making of a bread will do much to prevent the unpleasant texture.

Heavy, soggy, cornbreads are the result of too much mixing, inferior leavening agents, or slow baking.

Nut and Whole-Wheat Loaves

Quick breads of this type are made from recipes proportioned almost exactly like those for muffins. In fact, quick-loaf and muffin recipes usually may be used interchangeably. Quick loaves, however, must be baked in a much slower oven than must muffin mixtures, in order to allow the heat to penetrate the inside of the loaf uniformly before the outside has crusted over.

Common defects in quick breads are humped, cracked tops resulting from too hot an oven; soggy tunneled interiors caused by overmixing, or too rapid and insufficient baking; and strong objectionable or cloying flavors resulting from the use of too much sugar, strong molasses, poor quality nutmeats, or overdoses of soda or baking powder.

Gingerbread

Because of the greater quantity of sweetening and shortening used, the soft variety of gingerbread is more like a cake than a quick bread. The most common defect in this type of bread is strong and objectionable flavor. Frequently this is due to the strong and unpleasant flavor in the grade of molasses used. Occasionally it results from an excess amount of ginger.

Most often it is the "soda flavor" which results merely from the excess use of this particular leavening agent. Too much soda does give a pleasing depth of color and an almost oversoft and tender texture to a gingerbread, but it so entirely spoils the flavor that its use is not at all justified. One-half teaspoonful for each cup of sour milk or molasses used is the standard limit.

Custard

Custards are so nutritious, so easily made, and so deliciously variable that to be able to make one which is tender and delicate in texture, fine-grained (not curdled and watery), and just right in flavor, will solve dozens of family dessert problems. A good custard, as the old lady said, is —well—a "good custard." If you are acquainted with that particular type you can give no higher praise, but if you have been accustomed to really poor custard, then you may rank the dish as an abomination.

Custard is firm or soft according to the amount of egg used in the milk. But it will not separate, curdle, or become watery if it is cooked at a low enough temperature and for not too long a period. Placing the custard cups or dish in a bowl or pan of water will prevent the oven or burner heat from reaching them too rapidly and causing separation.

Firm custards are usually baked in the oven, soft custard cooked over hot water on top of the stove. To prevent the curdling of a soft custard, the mixture must be stirred constantly while it is cooking and should be removed from the fire as soon as it nicely coats the spoon.

Custards are criticized as being "flat" and "insipid" only when the cook has not realized the delightful opportunities for varying their mild natural flavor with fruit, nuts, spices, and other desserts.

Cottage Cheese

Cottage Cheese is another product which is frequently unappreciated when its real qualities have not been properly displayed. Being a milk product, even the most delicate error can give it a foreign flavor. When we serve cottage cheese in our *Successful Farming* Tasting-Test Kitchen we like for it to be smooth and creamy. It should be small grained and a delicate flavor after being properly seasoned with cream and salt and pepper.

For perfect cheese we must notice carefully the milk from which it is made and see that it has no unnatural flavors. The milk must be freshly soured. The next process, which is heating the milk, is usually the secret of success. If heated hurriedly or held at a high temperature for a long time, a dry rubbery cheese will result. If the cheese is not carefully drained it will be too moist.

What Is a Good Cake

You may have dozens of favorite cake recipes but they all belong to one of but two types of cakes, those made with shortening and those made without.

The so-called "butter cakes" include plain, gold, pound, fruit, chocolate, and Lady Baltimore cakes. The "butterless" class are represented by the sponge, angel, and sunshine varieties.

Whether a cake be of the "angel" or the "butter" variety, ideally it is smooth and unbroken in appearance, and of a size and shape which make it easy to handle and serve. If it be layered, then the layers are but two or three in number, plump and uniform in size and thickness, and with no humps in the middle. If it is of the loaf-cake variety then it is so shaped as to cut pieces of uniform thickness thruout the loaf, and those of a depth not less than 1½ to 2 inches.

The old-fashioned five-layer cake and 6-inch angel food do not find favor with modern cooks. They may have looked regal on their high standards of sparkling sandwich glass, but they were a nuisance to serve, and often an abomination to eat.

In texture the ideal cake is velvety and soft both to the tongue and to the fingers. More than that it is extremely fine in grain and just as soft and tender as it may possibly be without falling too readily apart when cut.

The flavor should be sweet, definite, and rich, not cloying, flat, unpleasant, or strong—as when too much extract is used. Angel cakes are so extremely lacking in any flavor except that given by the actual "flavoring" material that the greatest care must be used not to overdo the matter.

The score card for cakes differs somewhat from that we use for breads:

SCORE CARD FOR CAKE

	Percent
General Appearance: 25	
Shape and size	10
Attractiveness	15
Texture and crumb: 50	
Color of crumb	5
Fineness and uniformity	15
Lightness	15
"Velvetiness" or tenderness	15
Flavor and aroma: 25	25
	100

Angel Cakes

The whole secret of excellence in making an angel cake is thoroness but gentleness of movement in the mixing process, and slow heat in the oven. The problem is first to get as much air as possible into the egg whites and then mix in the other ingredients thoroly but without allowing any of that air to get out. After that the mixture is baked at the lowest possible temperature (about 300 degrees) that will thoroly "set" the crumb and keep the cake from falling. It will require from 75 to 90 minutes to bake a cake at this temperature.

The faults of the average angel cake are not those of appearance nor of flavor but rather of texture. In the following table we have listed those defects and causes which we thought would prove helpful to the most cake-bakers:

TEXTURE DEFECTS IN ANGEL CAKES AND THEIR CAUSES

1. *Heaviness*:
   Ingredients too roughly handled, choppy, rather than gentle motion in mixing process, sugar coarse and unsifted, eggs overbeaten.
2. *Toughness or Lack of "Velvetiness"*:
   Poor quality of flour (cake flour must be used), baked in too hot an oven (more than 300 degrees), too much flour to amount of egg whites, baked too long.
3. *Poor Color of Crumb*:
   If yellow—not enough cream of tartar, if gray—poor ingredients.

The same causes hold pretty much true for defects found in sponge cake and somewhat true for those usually encountered in making butter cakes.

Butter Cakes

The most common defects found in butter cakes are uneven shape, and coarse or uneven texture, or the lack of that particular velvety quality which is desirable above all others in a cake of this type.

A prolonged beating is necessary for a cake of fine grain; a gentle and almost continuous one essential to the "velvetiness" of ultimate texture. Toughness results from baking in too hot an oven or from the use of too much or the wrong kind of flavoring. Uneven texture is the result of incomplete mixing of the ingredients, particularly of the fat with the sugar or the beaten egg whites with the cake batter.

A heavy cake may result from too much or too rough beating after the baking powder has been added to the cake mixture. It may be from a delay between the mixing process and the time the cake was put into the pan (a short standing in the pan before baking seems to have no bad effect in a butter cake), or from poor baking.

The ideal modern cake is mild and rich in flavor. Strong extracts, and excess chocolate, burnt sugar, or soda flavors are highly objectionable. Custom favors, too, the plump cake of generous and even depth. Spreading the batter to the outside rather than in the center of the pan, avoiding the use of too much flour and care during the initial baking process will prevent humps, cracks, and other defects of shape.

An excess of soda will give the same depth of color and soft porous texture to a chocolate cake that it gives to gingerbread, but here, too, it spoils the flavor and it is, therefore, not justified.

What Is Good Jelly?

An ideal jelly is neither strong, oversweet, nor flat in flavor, but has a delicate tartness. It is clear and sparkling in appearance and is preferably bright in color. When cut with a spoon or knife it has a clean surface and does not stick. When turned from the glass it does not hold rigidly in shape, but quivers and while being tender enough to settle slightly does not break its smooth outside surface.

Probably because the development of new canning methods has made it possible to put up fruit by other methods than preserving in concentrated sugar solutions, the art of jelly-making does not seem to have kept pace with other culinary advancements in the last few years. If your jellies stand forlornly on back cupboard shelves for months at a time, instead of disappearing like magic from the table, try checking up their flaws by the following score card and table:

JELLY SCORE CARD

	Percent
Appearance: 25	
Color	10
Clearness or sparkle	10
Lack of crystals	5
Texture: 35	35
Flavor: 25	25
Container: 15	
Lack of mold	5
Nice label	5
Suitable shape and size to serve nicely	5
	100

JELLY DEFECTS AND THEIR CAUSES

1. *Unattractiveness*:
   a. Faded or colorless, caused by poor fruit, too much water added during extraction.
   b. Cloudy—lacks sparkle, caused by making too much jelly at one time, cooking not rapidly enough, jelly bag squeezed during straining.
   c. Crystals, caused by too much sugar. If in grape jelly, grapes not fresh or grapes overripe.
2. *Poor Consistency*:
   a. Toughness, caused by too little sugar, juice containing too little acid.
   b. Stiffness, caused by too long cooking.
   c. Softness and stringiness, caused by too much sugar to fruit juice, fruit overripe or lacking pectin, undercooked or made in damp, sticky, weather.
3. *Poor Flavor*:
   a. Flatness, caused by fruit lacking acid.
   b. Strength, caused by overcooking.
   c. Sourness, caused by being not sufficiently cooked—fermentation.
   d. Oversweetness, caused by too much sugar, too little fruit acid.

COMMON TEXTURE DEFECTS IN PICKLES AND THEIR CAUSES

Shriveled and Tough Pickles may be the result of too much salt, sugar, or strong vinegar. If a very sweet or very sour pickle is desired put the fruit or vegetable into a weak solution of the pickling mixture for a few days and then increase the strength of the solution.

Soft Pickles result from the use of fruits and vegetables which are overripe, or from an insufficient soaking in a "firming solution" like salt or ice water, or from a prolonged soaking in a brine that is too weak. In the "long brine" process a 10 percent solution (1 pound of salt to 5 quarts of water) is necessary to prevent the growth of organisms which cause softening. The juice from the pickles themselves, as it is drawn out, will oftentimes dilute the brine to a harmful degree. A cloudy brine, except in the case of dill pickles, will indicate that the solution is too weak.

Hollow Pickles are usually the result of using fruits and vegetables which are not fresh, but have been gathered some time before being put into the pickling solution.

STANDARDS IN CANNED FOODS

Color

The color of any canned product should be as nearly as possible that of the natural fruit, meat, or vegetable. Beets lose their color more readily in hard water. Corn turns dark when cooked at too high temperatures in the pressure cooker, or when canned in water rich in iron. Greens turn dark in water which is slightly acid or when too tightly packed in the jar.

Many of the red fruits fade when stored in a direct light or when cooked for too long a time, and darken when cooked in too heavy a sirup. Freshly peeled fruit such as peaches, pears, and apples, often turn dark when allowed to stand a few minutes before canning. This may be prevented by dipping the peeled fruit in a pan of slightly salted water (2 tablespoonfuls to the gallon) immediately after it is peeled.

When fruit or vegetables darken at the top of the jars, the color usually descending as time goes on, the change is due to the action of oxygen which has not been driven out of the air during the sterilization process. If an effort has been made to see that the liquid entirely covers the fruit or vegetable this is not apt to happen.

Clear Liquid

The standard for the liquid in which any fruit, vegetable, or meat is packed is that it be clear, and cloudless, free from settlings and seeds, and of a consistency to best preserve the contents of the jar. For meat we do not expect that the liquid will necessarily cover the jar contents, but we prefer that it be jellied and quivery in consistency.

Cloudiness in vegetable liquids is a sign either of an overripe product, overcooking, or, more likely of a softening of the starch cells which indicates the development of flat sour. Cloudiness in fruit liquids will probably be due to fermentation. Flat sour is more difficult to prevent, but fermentation occurs only thru carelessness in the sterilization process of poor and incomplete sealing of the jar.

Pack

The method of packing the fruit in the jar and the degree to which it holds the original pack is one of the tests of an expert canner. Fancy or "embroidered" packs which look well only from the outside of the jar and do not necessarily help the fruit to keep its shape, are a waste of time. Uniform, well-planned packs suited to the size and shape of the jar and allowing the greatest quantity of solid material and the least crushing inside the jar are well worth while. Halved fruit should always be packed uniformly pit-side down. Pointed vegetables such as carrots are best packed vertically with pointed ends fitting into spaces left between broader tops. String beans may be cut into uniform sections and placed crosswise in a flat jar, or if left whole are best packed in verticle rows, end to end. A can that is not full cannot be scored as perfect. Avoid shrinkage since it shows carelessness, inaccuracy, and lack of economy.

Flavor or Quality of Product

The ideal flavor of canned products is as nearly that of the nicest grade of corresponding fresh material as is practically possible. Very often, however, an ambitious canner forgets, in selecting materials to go into the jars, that a canned product can taste no better than the same product freshly cooked. Woody spinach, strong-flavored carrots, overgrown string beans, tough stringy meat, and coarse half-ripened peaches will still be coarse vegetables, tough meat, and flavorless fruit after it has been canned. In addition they may have developed some unpleasant defects due to poor handling and natural loss of flavor on standing.

4-H CLUB COOKING

For Farm Girls Who Like Cooking

No longer is it simple "cake making" with the 4-H Club girl. She masters the most vital subjects in farm food preparation, such as bread-making, canning, and proper cooking of vegetables, balanced menus, correct table service, and proper selection of equipment.

In the preparation of the foods the club girls insist upon cleanliness of surroundings, equipment, and ingredients. They use covered containers for all foods. All ingredients and utensils should be ready before beginning their work. This eliminates extra equipment, saves time and produces a better product.

The club girl also sees that her frock is fresh and perfectly pressed. Her hair is neatly arranged, and she is always particular about keeping her hands in a nice condition. The following recipes were used in state champion food demonstrations.

The South Dakota club girls have contributed these recipes:

Japanese Salad

1½ cups cooked rice
1½ cups salmon
½ teaspoon salt
⅛ teaspoon paprika

To cook rice, drop it into rapidly boiling, salted water, and boil until tender. Turn into a colander and let cold water run over it so that it will not be starchy. Drain well. When cool, mix with the cold salmon, salt, and paprika. Marinate (mix well) in French dressing and chill thoroly. Mix with Celery dressing, and serve on crisp lettuce leaves. Garnish with celery tops.

Melba Salad

1 can peaches (halved)
½ cup figs, chopped fine
½ cup pecans, chopped fine

Drain the liquid from peaches and chill. Mix the figs and pecans with enough Mayonnaise dressing to hold them together. Put the halves together with this mixture, and arrange on crisp lettuce leaves. Serve with French dressing.

Easter Salad

½ pound cottage cheese
½ teaspoon salt
¾ cup chopped nuts

Mix the cheese and salt, and form into small balls. Roll in chopped nutmeats. Make nests of shredded lettuce, and put three balls in each nest to represent eggs. Garnish. This is attractive at any season despite its name.

The club girls from Ohio recommend the two following recipes:

Brownstone-Front Cake

½ cup butter
1½ cups sugar
2 beaten eggs
1 teaspoon vanilla
¾ cup cocoa
½ cup hot water
½ cup sweet milk
1 teaspoon soda
2 cups cake flour
¼ teaspoon salt

Cream the butter and sugar together. Add the beaten eggs and vanilla and mix. Add the cocoa smoothed to a paste in the hot water, then the sweet milk, and the soda dissolved in 1 tablespoon hot water. Add the flour sifted with the salt and mix smooth. Bake in a shallow greased loaf pan in a moderate oven of 350 degrees for 30 minutes.

Rice and Cherry Fritters

1½ cups hot steamed rice
2 tablespoons butter
1 beaten egg
⅔ cup fresh or canned cherries.

Mix ingredients. Pour into shallow pan and let stand until cool. Cut in squares or shape in croquettes with the hands. Roll in crumbs, then beaten egg, and again in crumbs. Fry in deep fat at a temperature of 370 degrees. Drain and roll in powdered sugar. Serve warm with sauce made by thickening sweetened cherry juice with cornstarch, and adding juice of 1 lemon.

Houska and Kolaches

1 cake compressed yeast
¼ cup lukewarm water
1 tablespoon sugar

Let set 15 minutes in a warm place, then add: 1 cup milk which has been scalded and cooled to proper temperature, and 1 cup whole-wheat flour. Stir well until all lumps disappear. Let rise 30 minutes and add:
⅓ cup sugar
¾ cup milk
2 teaspoons salt
1½ cups whole-wheat flour
½ cup melted fat
1½ cups white flour

Mix ingredients in order given. Knead, let rise 2 hours. Knead, let rise 30 minutes, then shape.

When making Houska, knead ½ cup raisins into the dough at the first kneading. After the third fermentation period, to shape the Houska, divide the dough into 10 equal portions. Roll each strip 10 inches long. Take four strips and braid, place on greased baking sheet, placing halves of dates on top of this layer. Take three strips and braid, place on top of first layer, place halves of dates on this layer also. Take two strips and twist, place on second layer. Take last strip and twist, placing on top of third layer. Let rise 45 minutes, brush over with beaten egg and milk, sprinkle with poppy seed, and bake 45 minutes in moderate oven.

24 Kolaches: Divide into small portions at the end of the third fermentation period. Roll into little balls, place on baking tins, brush over with shortening; let rise 30 minutes, then make impressions in the dough with the fingers, fill with any preferred fruit sauce. Let rise 15 minutes. Bake in a hot oven for 20 minutes.

Prune Sauce for Kolaches: Stew 2 cups dried prunes, when tender drain liquid, and cool. (Save liquid to be used later in a dessert.) Remove the pits from the prunes. To the prune pulp add ½ cup sugar and 1 tablespoon vanilla, 1 teaspoon cinnamon; stir well and fill kolaches.

Oatmeal Drop Cookies

½ cup shortening
1 cup sugar
2 beaten eggs
1 teaspoon soda
¾ cup raisin juice
1 cup drained cooked raisins
2 cups flour
¼ teaspoon salt
2 cups oatmeal
1 cup nutmeats

Cream the shortening and sugar together. Add the beaten eggs and mix smooth. Add the soda dissolved in the juice which raisins were cooked in, then the raisins and flour sifted with the salt. Stir in the oatmeal and nutmeats and drop by spoonfuls on a greased cooky sheet, allowing sufficient space between the cookies. Bake in a moderate oven of 375 degrees for 15 minutes.

Kringla

(*Scandinavian*)
1 cup whole-wheat flour
1 cup white flour
1 teaspoon baking powder
1 teaspoon soda
¼ teaspoon salt
⅓ cup sugar
1 egg
½ cup milk, sour

Roll into long round strips like cheese straws, and shape like pretzels. Bake 20 to 25 minutes in a moderate oven.

Round or Flank Steak With Vegetables

1 pound of flank or round steak
2 large potatoes
4 carrots
2 onions
1 cup tomatoes
1 cup bread crumbs
1 cup celery
1 cup turnip or
1 cup shredded cabbage
2 tablespoons flour
2 tablespoons butter
Salt and pepper

Sprinkle the steak with flour. Make a dressing out of the bread crumbs, salt, pepper, and butter, and spread on the steak. Roll and tie. Sear in fat. Place in a covered baking dish and surround with diced vegetables. Add enough water to nearly cover, and bake at 300 degrees for about 2 hours.

Date Bars

½ cup butter
1½ cups sugar
1 cup sour milk or buttermilk
3 cups flour
1 cup chopped dates
½ teaspoon soda
¾ teaspoon S. A. S.-phosphate baking powder or
1 teaspoon tartrate or calcium phosphate baking powder
½ cup chopped nutmeats
½ teaspoon salt

Cream the butter, add sugar and cream again. Add soda and baking powder to sour milk. Add sour milk and flour alternately. Add a small portion of flour to the nuts and dates, and add last. Spread into a large pan about one inch thick and bake in a moderate oven of 350 degrees for about 25 minutes. Cut into strips and roll in powdered sugar while still warm.

Peach Delight

Drain the juice from 1 quart canned peaches, chop fine and add 15 marshmallows cut into small bits. Then add ½ pint cream, whipped stiff, and mix well. Chill for 4 hours, stirring occasionally. Just before serving, add 1 cup chopped nutmeats.

Cheese Puff

4 slices of bread
¼ lb. American cheese, grated
1 egg
1 teaspoon salt
2 cups milk
Dash of pepper

Butter the bread and cut in cubes. Put alternative layers of bread cubes and grated cheese in a buttered baking dish. Beat eggs slightly, add salt, pepper and milk. Pour this mixture over the bread and cheese. Bake in a hot oven 30 minutes. Temperature 400–450 degrees. Serves 4–6 persons.

Honey Raspberry Sherbet

1 pint of fresh raspberries
2 lemons
⅞ cup honey
2 cups water
1 egg white

Mix the raspberries, which have been put thru a sieve, lemon juice, water and honey and let stand several hours to blend. Put into a freezer, and when it begins to freeze, add the beaten egg white. For freezing use 8 parts of ice to 1 part of salt. This makes 1 quart.

Sugar Cookies

2 cups sugar
1 cup butter
2 beaten eggs
1½ teaspoons vanilla
1 cup sour cream
1 teaspoon soda
Flour to make a dough (about 5 cups)
1 teaspoon baking powder
1 teaspoon salt

Cream the sugar and butter together. Add the beaten eggs and vanilla and mix smooth. Add the sour cream in which the soda has been dissolved then a portion of the flour sifted with the baking powder and salt. Continue adding sifted flour until a stiff drop batter is formed if drop cookies are desired, or add flour to make a soft dough if the cookies are to be rolled and cut. Bake on a greased cooky sheet in a hot oven of 400 degrees for about 12 minutes.

CANNING

Latest Methods in Canning

Among the most popular food subjects for discussion with farm homemakers are canning and canned foods. Endless numbers of questions come to the *Successful Farming* Tasting-Test Kitchen asking how to can fish, how to have variety in serving canned meat, and if there is any difference in food value of home-canned and commerically canned foods.

Tests have been made which prove the vitamin content in canned foods is not reduced. When food is processed in an air-tight can the very high temperatures used to sterilize it do not kill the vitamins.

The old fears and suspicions of canning in tin have no grounds for existence. It is a perfectly safe method for both home-canned and commercially canned foods if properly processed. A lacquered can is sometimes used to preserve color in red foods, and frequently corn to prevent discoloration. It is even possible to permit foods to stand in an open tin can without dangerous results—a thing our grandmothers thought was absolutely forbidden. When buying canned foods you will want to keep the different grades in mind.

Hot-Pack Canning

The term "cold-pack canning" has been discarded and "hot-pack canning" is the phrase to use. By hot-pack canning we mean the filling of hot jars with hot precooked material or with cold material such as berries and covering with boiling hot sirup. Holding the uncovered filled jar in hot water until the material is heated thru and all air is driven out gives as full a jar as if the material were put into the jar hot. (A properly filled jar will be a full jar after sterilization.)

A short precooking period of most vegetables and some fruits, usually not over 5 minutes, is substituted for the formerly recommended blanching, and the cold dip is omitted. Experiments have shown that the cold dip was of no avail in destroying bacteria. When the product is precooked it is thoroly heated so as to facilitate packing, and any enclosed air is driven out. The material is put in the containers boiling hot and processed immediately. Avoid packing containers too tightly for the heat of processing will not penetrate easily to the center of the jar.

Budget for Six

A canning budget for six people has been worked out by the Extension Nutrition Staff of Iowa State College. This budget should be supplemented by a fresh fruit and vegetable each day unless tomatoes are being served liberally:

Product	*Amount to Can*
Fruits (One each day)	210 quarts to last 7 months
Tomatoes (2 to 4 times a week)	64 quarts to 128 quarts—8 months
Leafy vegetables (Twice a week if served fresh other days)	40 quarts to last 4 months
Vegetables other than those which may be stored (Three times a week)	90 quarts to last 7 months

If the homemaker at the end of the canning season can count about 400 quarts of canned material apportioned among the different classes of products as given in the table, she will know her canning job is well done.

Sterilizers

The use of a utensil in which the filled container may be immersed in boiling hot water the required length of time for sterilization has proved to be satisfactory for the canning of most products. The container used for the hot water should be of sufficient depth to allow for two or three inches of boiling water over the top of the jar, and a rack in the bottom to allow for an inch of water under the jars.

Many canners use sterilizers of too shallow a depth. In nearly every kitchen is some utensil which may be used satisfactorily. Avoid using a wash boiler of too great size as too much time is consumed in filling the jars and spoilage is apt to result. The utensil for the hot water should have a lid but there is danger of having one fit too tightly. A small nail hole in a tight lid will act as safety valve.

STEAM COOKERS

Steam cookers may be used successfully for canning, provided the temperature inside the steamer remains at 212 degrees. Otherwise they are undesirable to use.

A pressure cooker is a very desirable sterilizer of both glass and tin containers in that a temperature of several degrees above the boiling point may be reached, and in consequence the time of canning is shortened. The use of this type of sterilizer is recommended especially for canning meats and non-acid vegetables.

Experimental work at Iowa State College has shown that the pressure on the dial of the pressure cooker is no indication of the temperature within the cooker unless the steam is allowed to escape freely at least *7 minutes before closing the petcock.* The time is counted when pressure reaches the desired point.

Professor Capson, head of the bacteriology department of Oregon State College, says that the only safe and certain method of canning with a pressure cooker is to use a thermometer attachment.

The thermometer is not affected by air pressure or altitude as a pressure gauge is.

This matter of having your pressure cooker absolutely free from air pressure is imperative since it has been found that the deadly *bacillus botulinus* has been known to survive after 7 hours of exposure to the temperature of 212 degrees F.

An oven equipped with a heat regulator, or an ordinary range with a thermometer may be used for the sterilization of foods canned in glass jars. If the oven is preheated to 325 degrees, then the temperature reduced to 275 degrees for processing, sufficient heat for sterilization of the product is assured. The temperature within the jars never exceeds the boiling point. It is never advisable to process in the oven when canning in tin since there is great danger of explosion. The hot containers are placed in the oven with a little space between, and processed the length of time given in the time table. Good rubbers will not melt at oven canning temperatures. Set glass jars in shallow pans. Water is not necessary.

A scalding vessel for precooking, jar lifters, fruit funnels, stainless steel knives, thin wooden paddles, new rubbers, and perfect lids are necessary equipment.

Preparation for Hot-Pack Method

The material to be canned should be fresh, sound, and not overripe. Wash with care that to which dirt clings as the soil often contains bacteria difficult to kill in processing. Remove scales from asparagus and root ends from spinach to avoid canning any "grit" and to lessen the number of bacteria put into the

cans. Apricots, tomatoes, and peaches are usually scalded to remove the skin.

Sirup for Fruit

Thin, 1 part sugar to 1 cup water boiled; medium, 3 parts sugar to 2 parts water boiled until sugar is dissolved; thick, 2 parts sugar and 1 part water boiled for 1 minute.

Containers Before and After Processing

Glass jars should be washed with soap and water and rinsed at least twice with hot water. Do not wipe. For the canning of fruits and tomatoes, boil the containers, caps, and rubbers for at least 10 minutes before filling. If a long processing time is used, containers need only to be washed and rinsed.

When placing the lid on the jar before putting in to process turn the cover back ½ inch from a complete seal or in case of glass top jar, adjust lid but leave clamp up. Too loose a cover will mean loss of liquid from some jars. Tin cans are completely sealed before processing. If filled cold, it is recommended they be set in hot water within ½ inch of the top for 20 minutes at 200 degrees F. to drive out air before sealing. They are then removed and sealed while contents are hot. If sufficient amount of boiling liquid is added to the cans and they are sealed at once, the exhaust may be omitted.

Jars when processing by any method should not touch. One inch of boiling water should be beneath the jar and at least two inches over the cover. Time is counted when water boils rapidly. Avoid bumping of jars as breakage often results.

Food Spoilage

Fermentation, flat sour, and putrefaction are common types of spoilage which occur in home-canned foods. Fermentation is found in fruits and is due to insufficient heating of the product. "Flat sour" is the term used for the flat sour odor and taste of some canned foods. Products must be carefully handled and processed the proper length of time to avoid this spoilage. Canning of overripe products and slow cooling may be causes of flat sour. Putrefaction occurs in non-acid products and may be due to insufficient time in sterilizing product.

Opening Canned Foods

A few points should be carefully observed in opening and using home-canned products. We urge 10 minutes boiling of all canned non-acid vegetables and meat before tasting. There is an occasional spoilage in canned material not easily detected which may be rendered harmless if thoroly heated. Of course cans showing evidence of any spoilage should be discarded upon opening and burned or buried where chickens or animals will not eat the food. Bulging cans, discolored products, and off-odors are the usual indications of spoilage.

The person who follows carefully the simple rules for filling containers, watches the time of processing carefully, cools her cans quickly, and stores them in a cool place, is usually the most successful canner.

MEAT CANNING

All meats are easy to can. By canning at butchering time the homemaker conserves all the meat in a palatable form. Meat canned at home and served months later tastes exactly like fresh meat.

The meat may be canned raw but the finished product tastes like boiled meat. It is better to broil, roast, fry, or stew the meat before putting in jars. In this way the homemaker has a wide assortment of meats ready at a moment's notice.

All meats including beef, pork, lamb, mutton, veal, poultry, and fish are canned by the same general recipe. The meat is first prepared, that is, cooked in some form, and seasoned according to individual taste. The jars or tin cans are washed.

Jars have new rubber rings placed upon them. The jars are then filled

with the cooked meat to within ½ inch of the top. One teaspoon salt is added to each quart jar. No water is added. The gravy in the roasting pan or frying pan may be put into the jar with the meat. No flour is used in meat canning as it changes the flavor of the meat on standing.

When a jar is filled, the cover is placed on the jar and it is partially sealed. Tin cans are completely sealed. They are then placed in the canner and processed or sterilized the necessary length of time.

Pressure Cooking

The pressure cooker method of canning is recommended by the United States Deparment of Agriculture as the safest and best method of canning meats, poultry, and fish, as well as the non-acid vegetables.

Unless a recipe designates otherwise, the following time has been found to be satisfactory for all meat canning: Process or sterilize quart jars 1 hour at 15 pounds pressure and 1 hour at 15 pounds pressure for No. 2 can; 60 minutes at 15 pounds pressure for No. 3 can.

Preparing Meat

In preparing the meat for canning, the meat should not be cooked until tender. The canning process will complete the cooking so that the finished product will be tender and ready for immediate serving after being reheated. If overcooked the meat will lose its shape.

It is nice to can meats in different ways to add variety to meals and to call forth praise from guests and friends as well as the family. Every homemaker can have head cheese, chili con carne, fried chicken, soup stock, hearts, goulash, steaks, and roasts on her pantry shelves.

A few recipes for unusual dishes appear below. They are prepared according to direction and then canned as any meat.

Chili Con Carne

This product is also known as Mexican chili and the following recipe for making and canning it is typically Mexican. Chili can be served as the main course of the supper or luncheon meal during the winter months as well as on cold damp days in spring and fall. It is always a welcome change. Being made with chili pepper it is of course quite hot and peppery but that is the very thing about it that appeals to the family.

The following ingredients are required:

10 pounds beef, chicken, pork, or veal, cut up in small pieces
Use some pork if possible, otherwise add 3 cups fat
2¼ to 10 pounds of Mexican beans or kidney beans (some prefer more, some less)
5 medium-size onions
1 ounce Mexican chili pepper
10 whole cloves
5 cloves garlic (if you like garlic, otherwise just the onion)
4 bay leaves
4 red pepper pods
Salt to taste
3¾ gallons water

Chop meat, onions, and garlic. Add seasonings, water, and fat, if used. Cook until meat is tender. This will take about 1½ hours. Cook beans separately but do not cook them too long. They should be soft but whole.

The amount of chili pepper and spice can be changed to meet the consumer's taste. Some people make chili con carne without the beans and it is then a very spicy, hot, beef stew. In this case at serving time it is thickened by adding flour. Mix all the ingredients. Be careful in doing this not to burst the beans. Pack hot in hot glass jars or tin cans. Process quart jars 45 minutes at 15 pounds pressure.

Mince Meat

5 cups meat (beef)
2½ cups suet
6 lemons
6 oranges
5 cups sugar
½ cup lemon juice
3 cups raisins
2 cups currants
1 tablespoon mace
1 teaspoon nutmeg
2 tablespoons cinnamon
2 tablespoons allspice
2 tablespoons cloves

Use enough soup stock in which beef is cooked to moisten other ingredients. Cook until tender. Chop meat and suet together. Add remaining ingredients. Bring to boiling point and pack either in glass jars or lacquered tin cans. Process 1 hour for pint jars in pressure cooker at 10 pounds pressure. Process 1 hour and 45 minutes for quart jars in pressure cooker at 10 pounds.

Swiss Steak

2 pounds round or sirloin steak, cut ½-inch thick
Salt
Pepper
1 onion, sliced thin
1 cup drippings or other fat
½ green pepper, chopped fine
1 cup water
1 cup strained tomatoes

Pound meat with a wooden potato masher or edge of heavy plate. Heat fat. To save space in the glass jar or tin can, the meat may be cut with a circular cutter to fit the jar or can. Brown meat on each side. Sprinkle each piece with onion and pepper. Pack in jars or cans flat, one piece on top of the other. Add the water and tomatoes, which have been combined. Any other desired vegetables may also be added. Process pint jars 1 hour in pressure cooker at 10 pounds pressure. Process quart jars 1 hour and 45 minutes in pressure cooker at 10 pounds.

Spareribs

Roast in hot oven until each piece of meat is nicely browned. Salt as for table use. Cut down inside of each rib, and remove the rib bone. Cut the meat into serving-size pieces and pack into jars adding 2 tablespoons of the hot drippings from the roasting pan. Sterilize as other meats.

Canning Chicken

Salads, chicken a la king, creamed chicken, and chicken pie and sandwiches are all at your finger's tip if there is a generous supply of canned chicken.

There are certain precautions to observe in canning chicken:

1. Can only the choicest plump chicken.
2. Bleed well and cool thoroly, allowing it to stand at least six hours before canning.
3. When cleaning, singe and wash with warm water and soap.
4. It is best to draw the entrails out of water onto newspapers since it is much easier to handle.
5. Never under any conditions soak the chicken, or any other meat, in water since that draws the juices from the meat.

When canning a number of chickens, and it is a waste of time to do it otherwise, pack the white meat and very choicest pieces in separate jars. Then the bony pieces may be used for soups and creamed dishes.

It is best to can chicken without removing the bone since that adds to the flavor and thus it avoids packing the jar too tightly, which always prevents uniform heating thruout the jar.

Two 4-pound birds, when cut up and cooked and ready for packing into jars, will fill about 5 pint jars.

Chicken should be packed hot into hot, clean jars. It may be prepared for packing in either of two ways. Simmer pieces of chicken in a small quantity of water until it is boiling hot all thru. This is called stewed chicken. For fried chicken, sear the pieces in hot fat until they are golden brown. And, remember, do not roll the meat in flour before cooking.

Packing the Chicken

1. First place one drumstick in, small end down, then the other drumstick with the large end down.
2. Place a thigh next to the drumstick.
3. Place two wings next to the thigh, fitting the elbow of one wing into the other.
4. Place the neck portion in the center of the jar, with rib end down. This acts as a support for the remaining pieces and also allows heat to quickly penetrate the center of the jar.
5. Cover the neck-piece with the back.
6. Spread the white meat from the breast, after the breastbone has been removed, on top of the back.
7. Fit in the remaining pieces to completely fill the jar.

Place the hot packed jars immediately in a pressure canner, and process for 1 hour at 15 pounds pressure, or 250 degrees. Begin to count time when the pressure gauge registers 15 pounds, not before. When the hour is up, allow the canner to cool until the gauge registers zero, before opening the petcock. Then take the jars from the canner, and allow them to cool to room temperature. Tin cans are cooled immediately by putting them in cold water. Stewed chicken is all ready for use in pie or to be served "à la king."

Rabbits are canned in the same manner as chicken.

Head Cheese

For making head cheese, the hog's head, heart, tongue, tail, and feet are used.

After head and feet are cleaned, soak them in salted water for about four hours to extract the blood and dirt. Drain off the salt water. Rinse well. Add heart, tongue, and tail. Put the meat together in a quantity of cold water, add the salt, and 1 lemon cut into quarters. Simmer until the meat can be separated easily from the bones.

If cooked in the pressure cooker at 15 pounds pressure, it will require only 50 minutes. Pour off the liquid and take all the bones. Put meat thru the grinder. Then mix:

2 tablespoons salt
1 teaspoon black pepper
1 teaspoon paprika
½ teaspoon sage
2 bay leaves, powdered
¼ teaspoon mace

These seasonings may be changed according to individual taste. One cup minced green onions may be added. If they are used, cook them until tender in a little fat.

Combine all the seasonings with the liquor and simmer for 10 minutes. Then add the chopped meat. Pour the hot mixture into hot jars and process. This product jellies when cold so it is difficult to remove from glass jars. Tin cans are ideal for head cheese. When wanted for serving the head cheese is removed from the tin can in a solid roll. It can then be thinly sliced and served cold with horse-radish, mustard, dressing, or pepper sauce; or, it may be cut in slices, dipped in egg and cracker crumbs, and fried.

SOUPS

When we have soup, we serve soup, so try these recipes. After thoroly cooking the soup mixtures, pack in hot jars and process. If the water bath is used, process three hours; if the pressure cooker is used, process one and one-half hours at 10 pounds pressure.

Green Pea Soup

Cook the peas for 1 hour in enough water to cover, press thru a sieve, and pack into clean, hot jars. Add 1 level teaspoon salt to each quart, partly seal, and process 3 hours in a hot-water bath, or for 90 minutes in a steam pressure cooker at 10 pounds. Remove from the canner and seal immediately.

Tomato Pulp

Use any amount of tomatoes desired. Blanch until the skins loosen, cold-dip, remove the skins and hard cores. Cook for 30 minutes, press thru a sieve, and pack into clean, hot jars. Add 1 teaspoon salt to each quart, partly seal, and process 45 minutes in a hot-water bath, or 25 minutes in a steam pressure cooker at 10 pounds. Remove from the canner and seal immediately.

Vegetable Soup Mixture

Tomatoes, corn, carrots, celery, and beans make a good combination for vegetable soup.

Prepare each vegetable as for canning; blanch together the vegetables which do not require peeling. Cook for 5 minutes, and pack immediately into clean, hot jars. Add 1 teaspoon salt to each quart, partly seal, and process for 3 hours in a hot-water bath, or for 90 minutes in a steam pressure cooker at 10 pounds. Remove from the canner and seal immediately.

CANNING FRUIT JUICES

The following suggestions and recipes are given as an encouragement to the value to fruit juices.

If they are to be used as beverages, use sugar, since it improves the flavor. Lemon juice adds to the finished product of a beverage but should not be added when canning. When cooking fruit for canning juice, cook it at a low temperature (180-185 degrees)—the simmering stage or just beneath the boiling point. After the juice has been drained from the pulp it should be poured into hot sterilized jars and processed at a low temperature beneath the boiling point for 30 minutes.

Tomato Juice Cocktail

2 quarts canned tomatoes
2 teaspoons salt
2 tablespoons sugar
½ cup chopped onion
⅓ cup green pepper
½ cup chopped celery

Place all together in a kettle and simmer for 1 hour. Remove from the stove and run thru a fine sieve, allowing some of the tomato pulp to go thru with the juice. Pour into hot sterilized jars and seal. Three drops of tobasco sauce added before serving gives a nice flavor.

Grape Juice

(Cooked.) Choose plump, well-ripened but not overripe grapes. Pick over and wash thoroly. Place in a kettle, barely cover with water, and boil until seeds are free. Strain thru cheesecloth bag but do not squeeze. Measure the juice and replace on the fire and bring to the boiling point. Add ½ cup sugar to each quart of juice and let the mixture boil for 5 minutes. Pour into hot jars and seal immediately.

Grape Juice

(Uncooked.) Wash and stem the grapes. Measure and place 1 cup grapes into a clean, hot quart jar. Add 1 cup sugar. Fill the jar with boiling water, and seal immediately. Invert jar for a few hours before storing. It will be ready for use in about 6 weeks.

Strawberry Juice

Combine strawberry juice with three times its measure of apple juice. Small, inferior berries that are not suitable for canning or preserving may be used for juice.

Cover the berries with sufficient cold water to allow them to float. Simmer until they are soft and have begun to lose their color. Strain thru a jellybag and drain off the juice. Measure the juice, bring to a boil, and add 1-6 as much sugar as juice. Bring the juice again to the boiling point, skim, and seal in clean, hot jars.

Time Table for Canning Fruits

Product	Preparation	Processing Time in Boiling Water		Processing Time in Preheated Oven at 275 Degrees	
		Pint and Quart Jars	Nos. 2 and 3 Cans	Pint and Quart Jars	Nos. 2 and 3 Cans
Apples	Slice, quarter, or halve, pack in containers and cover with thin boiled sirup	20 minutes	15 minutes	35 minutes	30 minutes
	Boil whole in sirup or bake as for serving, cover with sirup and pack hot or pack in containers as for Apple Sauce	5 minutes	5 minutes		
Apricots	Halve and pit, pack in jars and cover with boiling thin sirup	20 minutes	15 minutes	40 minutes	35 minutes
Blackberries Blueberries Dewberries Huckleberries Loganberries Raspberries Grapes Currants	Pack in containers. Fill with boiling medium sirup	20 minutes	15 minutes	35 minutes	30 minutes
	Or precook and pack hot	5 minutes	5 minutes		
Cherries	Pack in containers, cover with boiling sirup. Thick sirup for sour cherries and medium for sweet Or remove pits, add sugar as desired, bring to a boil, and pack	20 minutes	15 minutes	30 minutes	25 minutes
Figs	Sprinkle 1 cup soda over 6 quarts of figs. Add 1 gallon of boiling water. Allow figs to stand in this mixture for 5 minutes. Drain and rinse well. Add 2 quarts of boiling medium sirup. Boil 1 hour. Fill containers. Cover with hot sirup.	20 minutes	15 minutes	30 minutes	25 minutes
Gooseberries	Pack in containers. Fill with boiling hot, thick sirup	20 minutes	15 minutes	30 minutes	25 minutes
	Or prepare as a sauce, using sugar as desired. Fill while hot	5 minutes	5 minutes		
Peaches	Pare and halve, pack into containers and cover with boiling medium sirup. Put a pit in each jar	20 minutes	15 minutes	40 minutes	35 minutes
Pears	Pear and cook for 4 to 8 minutes in boiling sirup and pack hot; or bake as for serving, cover with medium sirup and can	20 minutes	15 minutes	40 minutes	35 minutes
Pineapples	Peel, core, remove eyes, cut into cubes. Pack into containers and cover with boiling thin sirup. Cook in open kettle for 20 minutes and can	30 minutes	25 minutes	40 minutes	35 minutes
Plums	Prick, fill containers, cover with boiling medium sirup; or bring to a boil in open kettle, add sugar, cook until tender and pack	15 minutes	10 minutes	45 minutes	40 minutes
Rhubarb	Cut into ½-inch lengths. Pack and cover with boiling thin sirup. Or cut in ½-inch lengths. Add ¼ as much sugar as rhubarb	16 minutes	11 minutes	40 minutes	35 minutes
	Bake until tender in covered baking dish. Pack in hot containers	5 minutes	5 minutes		
Strawberries	Cook gently for 15 minutes in thin sirup, boiling. Let stand in sirup over night. Reheat to boiling and fill containers while hot	20 minutes	15 minutes	35 minutes	30 minutes
Tomatoes	Scald, cold dip, and peel. Pack whole or cut into pieces. Cover with hot tomato juice or boiling water	25 minutes	20 minutes	45 minutes	40 minutes

Time Table for Canning Non-Acid Vegetables

Pack vegetables as nearly boiling hot as possible, using additional boiling water if necessary. Add 1 teaspoon salt to each quart of all vegetables, and 2 teaspoons sugar, if desired, to corn. Place jars or cans in hot pressure cooker as soon as they are filled.

Product	Method of Treatment	Processing Period in Pressure Canner		
		Quart glass jars	Pint glass jars	No. 2 can
Asparagus.	Tie in uniform bundles, place in saucepan with boiling water over lower tough portion. Cover tightly. Boil 4 or 5 minutes and pack into containers. Or cut in ½-inch lengths, bring to boil in water to cover, and pack hot in containers	40 minutes at 10 pounds pressure or 240° F.	35 minutes at 10 pounds pressure or 240° F.	30 minutes at 10 pounds pressure or 240° F.
Beans (string)	Heat to boiling with water to cover. Pack hot into containers	30 minutes at 10 pounds pressure or 240° F.	25 minutes at 10 pounds pressure or 240° F.	30 minutes at 10 pounds pressure or 240° F.
Beans (lima)	Can only young and tender beans, using method suggested for peas	90 minutes at 10 pounds pressure or 240° F.	55 minutes at 10 pounds pressure or 240° F.	90 minutes at 10 pounds pressure or 240° F.
Baby Beets...	Can only young tender beets. Scald in boiling water or steam until the skins slip easily. Skin and pack hot into containers	40 minutes at 10 pounds pressure or 240° F.	35 minutes at 10 pounds pressure or 240° F.	40 minutes at 10 pounds pressure or 240° F.
Corn ...	Cut off without precooking. Add as much boiling water as corn by weight, heat to boiling and pack hot in containers	75 minutes at 15 pounds pressure or 250° F.	60 minutes at 8 to 10 pounds pressure or 250° F.	75 minutes at 10 pounds pressure or 250° F.
Carrots. ..	Wash, boil 15 minutes, cold dip, skin, and pack sliced, whole, or quartered	90 minutes at 10 pounds pressure or 240° F.	85 minutes at 10 pounds pressure or 240° F.	25 minutes at 10 pounds pressure or 240°F.
Greens.... (including spinach)	Steam or heat in covered vessel until completely wilted, using just enough water to prevent burning. Pack hot into containers, taking care that the material is not packed too solidly and that there is liquid to cover	90 minutes at 10 pounds pressure or 240° F.	85 minutes at 10 pounds pressure or 240° F.	90 minutes at 10 pounds pressure or 240° F.
Peas (green)	Use only tender young peas. Bring to boil with water to cover and pack hot into containers	60 minutes at 8 pounds pressure or 240° F.	50 minutes at 8 pounds pressure or 240° F.	40 minutes at 8 pounds pressure or 240° F.
Sweet Potatoes..	Boil or steam until skins slip off readily. Peel quickly and pack hot into containers	90 minutes at 10 pounds pressure or 240° F.	85 minutes at 10 pounds pressure or 240° F.	75 minutes at 10 pounds pressure or 240° F. No. 2 cans pack whole
Squash ..	Same as above	Same as above	Same as above	Same as above
Sauer-kraut	Pack. Add no water or salt	40 minutes	35 minutes	

Time Table for Canning Meat

Product	Processing Time in Pressure Cooker	
	Glass Jars	No. 2 Tin Cans
Meats— Beef, Pork, Veal, and Lamb	60 minutes at 15 pounds pressure	60 minutes at 15 pounds pressure
Chicken, Duck, Turkey, Wild Birds, and Rabbits	60 minutes at 15 pounds pressure	60 minutes at 15 pounds pressure
Fish	105 minutes at 10 pounds pressure	80 minutes at 15 pounds pressure
Soup, Soup Stock	105 minutes at 10 pounds pressure	40 minutes at 15 pounds pressure

Methods of preparing meats and soups are given in general directions for canning meats.
Processing methods are given for canning in No. 2 tin cans only. Meats in No. 3 tin cans require from 10 to 20 minutes longer.
No. 3 cans are not advisable for the home processing of asparagus, lima beans, or greens and peas.

Precautions in Canning

1. Can fruits or vegetables immediately after the product has been brought from the garden or orchard. Do not try to can too much at a time.

2. Never let a fruit or vegetable stand overnight before canning. Can fresh from the garden.

3. Corn, peas, and lima beans expand during processing and therefore they should be packed loosely. Leave one inch in the top of the jar for expansion. Slip the blade of a dinner knife down the center of the jar after it is packed to be sure that the pack is not too tight. A looser pack encourages more uniform heating.

4. Have the food hot, place it in hot jars, and keep jars in hot water while packing and until they are ready to put in the canner.

5. Never permit any bruises, or under-ripe portion of the product to be canned. Sections of the core of the tomato detract from the flavor.

Avoidance of Shrinkage

6. Berries, rhubarb, and the softer fruits will not shrink and rise in the jar if the sirup in which they are canned is not too thick, or if they are allowed to stand and absorb the sirup overnight before the final processing. Tomatoes, greens, and some of the softer vegetables, shrink if they are not sufficiently precooked before they are packed into jars for processing.

With tomatoes, merely standing the jars of cold-packed fruit in a pan of hot water for a few minutes after the boiling liquid is added and before the jars are sealed will sufficiently preshrink the product so that no empty spaces will occur. Such fruits as peaches, pears, and apples often shrink and wither if canned in too heavy a sirup.

7. Soft water should always be used for canning. If hard water only is available, boil it and skim.

8. Use only the best containers, and good rubbers. Do not use them a second time as no jar rubber can resist processing more than once. Be particular about the jar lids. Do not trust those which are not well made and substantial.

Indications of Spoilage

When there is a perfect seal in a jar of processed food there is a suction within the jar. The top of the lid is "pulled in," and the lid is hard to remove. Be careful of bulging lids—they mean danger.

Tin cans when perfectly sealed have dents in the sides.

Never trust any food with the slightest indication of spoilage present.

Boil all non-acid canned foods 10 minutes before tasting.

SOUPS AND COCKTAILS

Onion Soup

4 tablespoons butter
2¼ cups thinly sliced onions
6 cups beef broth
1 teaspoon salt
⅛ teaspoon pepper
Few grains cayenne
3 dry rolls, split and toasted
¾ cup grated cheese (Parmesan preferably)

Melt butter in saucepan. Add onions and cook gently 8 minutes, or until soft and yellow. Add broth and seasoning. Simmer 20 minutes or until onions are tender, but do not cover. When ready to serve, place half a toasted roll in each soup bowl or plate. Sprinkle each roll with 2 tablespoons grated cheese. Add soup and serve at once with assorted pickles or relishes. Serves 6.

Brown Soup Stock

4 to 5 pounds meat (preferably beef, but pork and veal may be used)
½ cup diced carrots
½ cup diced turnip
½ cup diced onion
½ cup diced celery
5 whole cloves
Salt
Pepper

Cut some of meat in small pieces and brown in hot skillet to obtain desirable brown color of stock. Meanwhile cover remaining meat and some bones (which have been cracked or sawed in two so that flavor of marrow is obtained) with cold water and let stand 30 minutes. Add browned meat, cover, and simmer 3 to 5 hours. Add vegetables, cloves, and salt and pepper to taste. A little parsley or marjoram gives additional flavor. Cover and cook gently 1½ hours. Strain thru fine sieve. Skin off fat and serve hot or use as directed in recipes which call for soup stock.

Mixed Fruit Cocktail

½ large grapefruit
1 orange
2 whole canned pears
⅓ can pineapple
2 tablespoons lemon juice

Peel, seed, and remove membranes from the sections of the orange and grapefruit. Cut each section in two or three pieces. Dice the pears. Mix the pieces of the various fruits included and the lemon juice. Chill and serve in cocktail glasses.

Melon Cocktail

Cut melon balls from cantaloupe and watermelon. Sprinkle lightly with sugar and lemon juice. Place in the ice box and let stand for several hours before serving.

A fourth or a fifth of a cantaloupe, depending on the size, may be served as a first course. A sprig of mint and a section of lemon add to the flavor and attractiveness.

Oyster Cocktail

1 pint oysters
3 tablespoons tomato catsup
¼ teaspoon Tabasco sauce
1 tablespoon horse-radish
6 tablespoons lemon juice
1 teaspoon salt
Paprika

Clean and drain the oysters and chill. Place four or five in sherbet glasses and cover with sauce made from the ingredients given above.

Consommé

(Clear.) Skim the fat from Brown Soup Stock. Wash and break an egg, beat the shell and egg with a little cold water. Stir into the hot soup and heat to the boiling point. Push to the back of the stove and let stand for about 5 minutes, then strain thru a cloth or fine sieve. Serve hot.

Clam Chowder

¼ pound diced bacon or minced salt pork
1 quart boiling water
2 cups finely diced carrots (may be omitted)
½ cup diced celery
2 cups canned tomatoes
1 cup diced onions
2 cups diced potatoes
1½ teaspoons salt
1 quart clams and liquor
2 tablespoons butter
4 tablespoons flour
1 quart milk and cream
Pepper to taste

Place the diced bacon or minced salt pork in a deep pot, and fry until crisp. Add the boiling water, then the vegetables and cook tender—about 25 minutes. Season with salt, add the clams with their liquor, and boil for 20 minutes. Melt the butter in a separate pan. Add the flour and smooth to a paste, then the milk, stirring until a thin sauce is formed. Add the clam mixture, and stir until mixed. Season with pepper and serve hot.

Vegetable Chowder

1 cup lima beans
1½ quarts cold water
1 cup diced carrots
1 cup tomatoes
1 cup shredded green pepper
1 onion, diced
2 teaspoons salt
Juice of 1 orange
2 tablespoons uncooked rice
2 cups milk and cream
Pepper to taste

Soak the lima beans overnight in cold water. Drain, add 1½ quarts of cold water, and the vegetables. Cover, and simmer until very tender. Press the mixture thru a sieve, add the salt and orange juice, and heat to the boiling point. Add the rice, and cook until tender. Add the milk and cream, pepper to taste, and again heat to the boiling point. Serve at once.

Cream of Tomato Soup

2 cups raw or canned tomatoes
2 teaspoons sugar
1 slice onion
½ bay leaf
1 clove
3 tablespoons butter
4 tablespoons flour
1 quart milk
Salt and pepper to taste

Simmer the tomatoes, sugar, onion, bay leaf, and clove together for 15 minutes. Press thru a sieve. Melt the butter in a pan, add the flour, and smooth to a paste. Add the milk gradually, and cook until a thin creamy sauce is formed. Add the sieved tomato mixture gradually to the milk, stirring until mixed. Heat but do not boil, and serve. If the mixture curdles, add ⅛ teaspoon soda and stir. Very small cubes of dry toast served on top the soup, and grated cheese sprinkled over this gives a dressed-up air.

Vegetable Soup

1 cup diced carrots
1 cup diced turnips
1 cup diced celery
1 cup tomatoes
1 cup fresh spinach, or ½ cup canned spinach

Wash and chop vegetables. Add water to cover, and cook gently until vegetables are very soft. Sieve vegetables or leave diced. Add white sauce made as follows:

White Sauce

1 pint milk
4 tablespoons butter
2 tablespoons flour
Salt and pepper to taste

Scald milk. Melt butter, add flour, and blend. Add milk gradually and stir until sauce is smooth. Season with salt and pepper and simmer 20 minutes. Serves 6 to 8.

Noodle Soup

Add ½ cup noodles to 1 quart of boiling Brown Soup Stock, and cook until tender. A small amount of canned tomatoes added to the stock is often relished.

Strawberry Grapefruit Cocktail

½ cup sliced strawberries
½ cup grapefruit sections (membrane removed and broken into pieces)
6 tablespoons strained honey
2 tablespoons lemon juice

Mix the fruit, honey, and lemon juice, and chill thoroly. Serve in cocktail glasses, garnish with one choice strawberry and a sprig of fresh mint. This recipe serves 2 to 3.—Mrs. S. K., Ill.

Fruit Punch

1 quart water
2 cups sugar
2 cups shredded pineapple
½ cup lemon juice
1 cup orange juice

Boil water, sugar, and pineapple 20 minutes. Add fruit juices, cook few minutes longer and strain. Cool and serve with ice. Serves 25.

Tomato Cocktail

Sieve canned tomatoes and to 3 cups strained juice add 1 teaspoon salt, 1 teaspoon sugar, 1 tablespoon lemon juice, and ¼ teaspoon onion juice or scraped onion. Mix well and chill. This is a nice first course for a roast meat dinner, or it may be served in small glasses with crackers or sandwich for in-between-meal "snacks."—Mrs. J. M.

Cheese and Olive Canapé

Butter
Soft Cheese
Salt
Chopped olives
Red or green pepper

Cream butter and cheese until smooth. Season with salt. Spread on thin diamond-shaped pieces of rye bread. Use the olives and green peppers as decorative touches.

Canapés

Canapés are made from stale bread, brown or white, in ¼-inch thick slices. These slices should be cut in fancy shapes and quite small. Toast brown on one side. Spread toasted side with the chosen mixture.

Oyster Soup

1½ quarts whole milk
1 cup thin cream
4 tablespoons butter
1 pint fresh oysters
Salt
Pepper

Place milk and cream in saucepan and heat slowly to scalding. Add butter and oysters. Season to taste with salt and pepper. Heat gently until edges of oysters curl. (Oysters become tough and lose flavor when overcooked.) Add more oysters and butter if desired. Serves 4 to 6.

Celery and pickles make the meal complete. Oyster soup may be thickened ever so little, or a small amount of diced celery, carrot, and potato cooked tender may be added with the liquid in which they were cooked.

Sardine Canapé

Sardines
Butter
Lemon juice
Onion juice

Mash the sardines into a paste and mix with creamed butter. Then flavor with lemon and onion juice. Spread on salted wafers or thin slices of bread cut in fancy shapes.

Vegetable Brown Soup

Add ¼ cup each of potatoes, carrots, cabbage, onion, and turnips to Brown Stock Soup, and cook tender. A sprig of parsley, 5 whole cloves, and a bay leaf may be added for additional flavoring. Season with salt and pepper, and serve hot. Pieces of the cubed meat may be added if desired and the vegetables varied to suit the taste.

Grape Juice Cocktail

1 pint grape juice
¾ pint orange juice
½ cup sugar sirup

BEVERAGES

Chocolate

3 squares chocolate
6 tablespoons sugar
1½ cups cold water
¼ teaspoon salt
4½ cups milk

Place chocolate, sugar, salt, and water in a saucepan. Boil for 1 minute, until chocolate melts. Add milk and reheat but do not boil. Then beat with an egg beater until light and foamy. Serve immediately. Serves 6.

Basic Chocolate Sirup

½ cup cocoa
1 cup cold water
2 cups sugar
⅛ teaspoon salt
2 teaspoons vanilla

Cook cocoa and water together, stirring until smooth. Stir in sugar and salt until dissolved. Boil for 3 minutes and add vanilla. Seal in a pint jar. Keeping airtight prevents sugaring. This basic chocolate sirup can be made in quantity and kept indefinitely in a tightly covered jar.

Chocolate Milk Shake: Allow 1½ tablespoons chocolate sirup to a glass of milk. Pour the milk and sirup in a shaker or jar which has a tight cover. Add cracked ice and shake well.

Chocolate Ginger Ale Highball

3 teaspoons chocolate sirup
1 bottle ginger ale (10 ounces)

Put half of the chocolate sirup in each glass, add half of the ginger ale, and stir well. Add cracked ice and serve at once. Serves 2.

Cider Punch

2 cups sugar
½ cup lemon juice
1 quart grape juice
1 quart sweet cider

Mix all ingredients well and pour into a pitcher half filled with cracked ice. Serve when well chilled. Serves 9.

Hot Malted Milk

¾ cup milk
4 tablespoons cream
1 heaping tablespoon malted milk

Heat the milk in a double boiler. Mix the malted milk smooth in cream which is cold and add to the hot milk. Top with whipped cream or a marshmallow if desired. Serves 1.

Sugar Sirup

2 cups sugar
2 cups water

Stir sugar until dissolved in water and boil gently for 8 minutes. Pour into a pint jar for use when wanted. This is better than sugar for sweetening everyday lemonade and orange juice, and may be used in many summer drinks. Honey may be used as sirup for lemonade and other drinks. One cup honey will sweeten a product as much as a cup white sugar.

Sauerkraut Juice

Kraut juice is not only a beverage —it is a food and a medicine that is a remedy for many common ailments. It is teeming with vitamins and rich in mineral salts, iron, and calcium. To prepare for serving, simply chill thoroly.

Tomato Juice

The juice of the tomato, too, has come into its own and is a popular appetizer. Here are vitamins aplenty (minerals, too) and as desirable as in orange juice. For breakfast, or any meal, tomato juice whets the appetite and offers the protective elements the system needs. The chilled juice of either freshly cooked or canned tomato makes a snappy drink when seasoned with salt, sugar, celery salt, a bit of lemon juice or Worcestershire sauce.

Strawberry Punch

4 lemons
2 quarts boiling water
1 pound sugar
2 tablespoons tea
4 oranges
1 fresh pineapple
1 pint strawberries

Grate the rind of 2 lemons and cook with the water and sugar for 5 minutes. Pour over the tea and let stand for 5 minutes, then strain and cool. Slice 2 oranges and extract the juice from the other two. Cut pineapple in small pieces. Wash, stem, and crush the strawberries. Mix the fruits and add lemon and orange juice. Add cold tea to fruit mixture and add ice. Canned fruit may be substituted for the fresh fruit.

Grapefruit-Cider Punch:

2 cups grapefruit juice
1½ cups sweet cider
2 cups water
½ cup sugar

Mix and serve cold. Garnish with half rings of red apple.

Grapefruit-Loganberry Punch:

2 cups grapefruit juice
1¼ cups loganberry juice
½ cup sugar
1 cup water

Mix and serve very cold.

Loganberry Punch:

2 oranges
2 lemons
1 quart water
1 cup loganberry juice
1 cup sugar
1 banana

Mix orange and lemon juice, water, loganberry juice, and sugar. Add banana cut in thin slices and serve cold. Serves 7.

Orange Nog

⅔ cup sugar
2 cups orange juice
2⅔ cups chilled milk

Dissolve sugar in orange juice and chill. When ready to serve, pour orange juice slowly into the milk. Shake vigorously in a glass fruit jar. Serve immediately. Serves 6.

Grape Shake

2½ cups chilled grape juice
¾ cup chilled milk
1 teaspoon lemon juice

Pour the grape juice into the milk and shake vigorously. Add the ice and lemon juice. A little sugar or sirup may be required if sour grape juice is used. Serve at once. Serves 6.

Rhubarb Punch

1 quart rhubarb
1 quart water
⅓ cup orange juice
4 tablespoons lemon juice
1½ cups sugar sirup
1 pint ginger ale

Cut the rhubarb in small pieces; cook with the water until fruit is soft. Strain thru a double thickness of cheesecloth, add the orange juice and lemon juice and sugar sirup. Chill with ice and add ginger ale. Serves 8 glasses or 24 punch glasses.

Root Beer

1 bottle root beer extract
4 pounds white sugar
½ cake compressed yeast
5 gallons warm water

Pour extract over the sugar and mix well, then dissolve in the lukewarm water. Dissolve ½ cake of yeast in 1 cup lukewarm water. (If dry yeast is used, dissolve 3 cakes in a pint of lukewarm water; stir well and strain thru cheesecloth.) Add dissolved yeast to the sugar and extract mixture. Stir well and bottle immediately. Seal with a crown or stopper; otherwise corks must be fastened securely. If the beverage is not to be kept for any length of time, it may be bottled in glass top fruit jars with clamp tops. Place the bottles on their sides in a warm place and protect from draughts until effervescent. After 48 hours the root beer is ready to drink and then it should be kept in a cool place.

Ginger Beer: Substitute ginger beer extract and follow the directions given for root beer.

Birch Beer: Substitute birch beer extract and follow the directions given for root beer.

SANDWICHES

Vegetable Sandwiches

Cucumber Sandwich: Peel cucumbers, remove seeds, chop finely, and place in sieve to drain. Add onion, salad dressing, and seasonings. Spread between slices of bread.

Carrot Sandwich: Grate raw carrots and mix with tart mayonnaise and a little salt. Thin slices of cooked carrots are delicious in a sandwich.

Green Pepper Sandwich: Cut green peppers, after seeds and inner fibers have been removed, into fine strips. Sauté in butter. While still hot place peppers between two slices of bread and when cold serve this sandwich with cold meat.

Tomato-Bacon Sandwich: Place thin slices of tomatoes with crisply broiled bacon on slices of white or whole-wheat bread. Lettuce and mayonnaise may be used with this also.

Tomato, Green Pepper, and Onion Sandwich: Use thin slices of tomato, onions, and rings of green peppers, all marinated in French dressing. Buttered bread of any preference may be used with these.

Tomato Sandwich: Put thin slices of tomato seasoned with salt, pepper, and mayonnaise between two lettuce leaves. Lay between buttered slices of bread.

Onion Sandwich: Soak thin slices of Bermuda onions for one hour in ice water which has been salted and sweetened. Drain and place between two thin slices of bread which have been slightly coated with mayonnaise or butter. These sandwiches are delicious made of white, whole-wheat, or rye bread.

Roast Pork Sandwich

Substitute pork for beef in the preceding sandwich recipe.

Checkerboard Sandwich

Cut 6 slices of bread about ½-inch thick, 3 of white and 3 of whole-wheat. Spread one of the white slices with cream cheese. Place a slice of whole-wheat bread on this and spread with same or a different mixture, topping with another slice of white. Make another pile like this, except with two whole-wheat slices and one white, weight both piles lightly, and set in the refrigerator.

When firm and thoroly cooled, trim and slice each pile in three slices. Spread these with the same mixture as used before and combine slices crosswise, white and whole-wheat squares alternating. Repeat weighting and cooling for a few hours. When ready to serve, cut in thin slices.

Honey-Nut Sandwich

1 cup honey
2 tablespoons lemon juice or other citrus fruit
Chopped black walnuts or pecans

Mix the above ingredients and serve on thin slices of buttered bread.

Raisin-Nut Sandwich

Moisten equal parts of chopped, seeded raisins and mixed nut meats with grape juice. Spread between thin slices of buttered bread.

Cottage Cheese Sandwich

Mix cottage cheese with dried fruit such as raisins, chopped dates, or figs. For other variations, some prefer onion juice, olives, or green peppers.

Egg Sandwiches

Place slices of hard-cooked eggs and thin slices of cucumber pickle between layers of white or brown bread.

Ham Loaf Sandwich
2 cups cooked ham
½ cup dry bread crumbs
1 small onion
2 canned pimientos
Small amount green pepper
⅓ cup tomato soup

Chop the first ingredients and mix thoroly with the tomato soup, adding enough water to moisten. Bake in a loaf. When cold, slice and use between buttered bread, with or without lettuce and mayonnaise.

Ham and Green Pepper Sandwich

Put thru the food chopper pieces of ham which are not good for slicing, together with a small onion, ½ green pepper, and 1 hard-cooked egg. Mix with salad dressing. This mixture will keep well in the refrigerator for several days.

Deviled Ham and Cucumber Sandwich
2 cucumbers
1 small onion
Mayonnaise
1 small can deviled ham

Slice the cucumber and onion thin, and mix with mayonnaise or marinate with French dressing. Cover 1 slice of bread with cucumber and a second with deviled ham. Press slices together and cut in triangles.

Roast Beef Sandwich

Chop very fine enough roast beef to make 1 cup. To it add pepper, salt, a little chopped onion, and enough fresh horse-radish to soften the mixture. Spread between generous slices of white or whole-wheat bread.

Lamb Sandwich
¾ cup finely minced cold lamb
¾ cup chopped celery
1 tablespoon minced mustard pickle
2 tablespoons shredded water cress
Salt and paprika
Pinch of curry powder

For each sandwich use 1 rounding tablespoon of this mixture, and a crisp lettuce leaf dipped in French dressing. Spread between buttered slices of whole-wheat bread.

Veal Sandwich
1 cup chopped veal
1 small carrot (or more)
1 small onion
A few sprigs of parsley

Chop all together, mix and season with salt and pepper. Moisten with olive oil and lemon juice. Use on any kind of bread preferred.

Pork Sandwich

Mix cold pork with green peppers and onions to taste. Chop and moisten with salad dressing. Or, slice cold roast pork thin and lay between slices of bread brushed with mayonnaise, with leaves of lettuce if desired.

Beefsteak Sandwich

Fry ¾ pound of steak to a nice brown. Grind in the food grinder with 1 hard-cooked egg and 2 medium-size pickles. Moisten with mayonnaise. Makes 12 sandwiches.

Summer Sandwich

Slit finger rolls along the top (once or twice) and spread a dressing of chopped mustard pickle in each slit. Broil bacon and slip it hot into the opening, adding a little crisp lettuce if desired.

Bacon and Endive Sandwich

Mince fried bacon with a few leaves of curly endive. Season with paprika and moisten with lemon juice. These sandwiches should be eaten as soon as made.

Liver and Olive Sandwich

Boil 1 pound of calf's liver until tender, salting to taste. Rub thru a sieve while hot. Mix with ¾ the amount of thinly sliced stuffed olives. Moisten with mayonnaise and spread on buttered rye bread.

EGG, CHEESE, AND CASSEROLE DISHES

Eggs Piquant

Half fill liberally buttered ramekins with hot boiled rice, and add to each 1 tablespoon tomato soup or sauce, or good gravy, and drop an egg in each. Sprinkle with minced ham or grated cheese and pepper and salt, and set in a pan of hot water in the oven until eggs are delicately set. This is also a nice supper dish. Peas or cooked tomatoes may be used instead of rice.

Swiss Eggs

1 tablespoon butter
½ cup thin cream
4 eggs
2 tablespoons grated cheese
1 tablespoon bread crumbs

Heat small iron frying pan, melt butter in it, and add cream. Slip in eggs one at a time, sprinkle with salt, pepper, and a dash of cayenne. When whites are nearly firm, sprinkle with cheese mixed with crumbs. When cooked, serve on buttered toast. Strain cream over toast.

Scalloped Eggs

4 hard-cooked eggs
¾ cup cooked material, ground ham, flaked fish or chopped chicken
2 cups white sauce
½ cup bread crumbs
1 tablespoon butter

Arrange alternate layers of sliced eggs and other cooked material in a buttered baking dish. Pour white sauce over the mixture; cover with bread crumbs, dot with butter, and brown in a moderate oven (325 to 400 degrees). Serve in the baking dish as a main dish for luncheon or supper.

Nut and Cheese Loaf

1 tablespoon chopped onions
1 tablespoon butter
1 cup grated cheese
1 cup chopped walnut meats
1 cup dry bread crumbs
¾ cup boiling water
1 egg
Salt and pepper to taste

Cook onion in the butter for a few minutes. Mix cheese, nut meats, bread crumbs, and water; butter, onion, and egg. Bake in small pan for 30 minutes in a moderate oven (325 to 400 degrees).

Corn and Pork Scallop

Fry 2 pounds of pork chops until well done and a pale brown. Season with salt and pepper. Take a 2-quart baking dish, put a layer of corn in the bottom (either fresh corn cut from the cob or canned corn) then a layer of pork, and so on until the dish is full. Add 1 cup water (more will be needed if fresh corn is used) cover and bake 1 hour. Remove cover 15 minutes before serving so that the top may be nicely browned.

Italian Delight

¼ cup olive oil
1 onion
1 package spaghetti
2 pounds hamburger or chopped veal
1 can tomato soup
½ cup hot water
1 tablespoon Worcestershire sauce
1 cup grated cheese
½ can corn

Brown chopped onion in the oil, add meat, and cook for 15 minutes. Boil spaghetti and add with soup, seasoning, cheese, and corn. Bake for 1 hour.

Veal Pie

1 quart canned veal or beef, ground
1 teaspoon chili powder
1 can tomatoes
1 large onion
2 teaspoons sugar
Corn-meal mush
Salt and pepper to taste

Brown the onion in a little bacon grease in a large-size skillet. Add the meat. After it is slightly browned with the onion, add the chili powder, salt and pepper, and the tomatoes, sweetened with the sugar. Cover the mixture with a generous layer of corn-meal mush. Dot the top with butter and bake until the mush is a golden brown. For variety, green peppers may be sliced and placed over the mush, or split okra. This pie may be made also with ground fresh beefsteak.

Casserole Stew

1¾ cups canned beef
4 carrots, sliced
½ cup tapioca
1 tablespoon butter
4 potatoes, cubed
4 small onions, sliced
½ can peas
Salt and pepper to taste

Cut the meat into medium-sized pieces. Place all the ingredients in a buttered casserole and cover with water. Bake slowly, keeping the dish covered, until all the vegetables are tender, stirring frequently. Keep filled with water. Serve hot. Serves 6.

The vegetables and meat in this recipe may be varied according to taste. Any leftover gravy may be used instead of butter.

Creamy Scrambled Eggs

6 eggs, slightly beaten
6 teaspoons thin cream

Combine eggs and cream, season with salt and pepper, and cook over hot water until the yolks are cooked and the whites set. Stir constantly during the cooking and never let the water boil.

Luncheon Macaroni With Ham

Cook 2 cups of macaroni in plenty of boiling salted water. Drain and rinse with cold water and place in a buttered baking dish. Grind raw or leftover boiled ham, enough to make 1 cup, heat in a frying pan with drippings to keep it from sticking, add 1 teaspoon minced onion. Add slowly 2 tablespoons flour and 2 cups milk. Stir well and cook until slightly thickened. Pour this mixture over the macaroni. Cover with ½ cup grated cheese and bake in a moderate oven (325 to 400 degrees) for 25 minutes. Serves 6 to 8.

Soufflé From Canned Meat

3 tablespoons butter
3 tablespoons flour
1 cup sweet milk
2 eggs
1 cup chopped meat (cooked ham or canned meat may be used)
Few drops onion juice

Melt butter, add flour, and blend thoroly. Add milk gradually and stir until smooth. Bring to boiling point, then remove from fire and add egg yolks slightly beaten. Add meat and seasonings. Then fold in egg whites stiffly beaten. Pour into a buttered baking dish and bake in a moderate oven about 20 minutes. Serve at once.

Cheese Fondue

1 cup milk, scalded
1 cup soft bread crumbs
2 cups grated cheese
1 tablespoon butter
½ teaspoon salt
½ teaspoon mustard
Dash of white pepper
3 egg yolks, well beaten
3 egg whites, stiffly beaten

Combine scalded milk, bread crumbs, cheese, butter, and seasonings. Add egg yolks. Fold in egg whites. Bake in greased casserole, place in pan of hot water, in moderate oven (325 to 400 degrees) until puffed and delicately browned.

Spanish Stew

1 quart canned beef, ground
1 pint tomatoes, or
1 can condensed tomato soup
1 small onion
1 package macaroni
Salt and pepper to taste

Cook macaroni in boiling salted water until tender. Dice the onion. Combine all ingredients. Place in oiled baking dish or casserole. Bake until slightly browned on top.

Lenten Mousse

1½ cups milk, scalded
1 cup soft bread crumbs
4 tablespoons butter, melted
1½ tablespoons parsley, chopped
1 large pimiento, cut in fine strips
1 tablespoon onion, finely chopped
1½ cups grated cheese
½ teaspoon salt
Dash of white pepper
3 eggs, well beaten
1 cup spaghetti, cooked and drained

Pour milk over crumbs, add butter, parsley, pimiento, onion, cheese, and seasonings. Add eggs and mix well. Arrange spaghetti in well-greased baking dish and pour cheese mixture over it. Place dish in pan of hot water and bake in moderate oven about 1 hour. Serve with olive sauce, made by stoning 10 olives, cooking in boiling water 5 minutes, and adding to brown sauce.

Casserole of Rice and Meat

2 cups chopped canned meat
1 tablespoon chopped onion
1 beaten egg
2 tablespoons cracker crumbs
1 teaspoon salt
Pepper
¼ teaspoon celery salt
Milk or meat stock

Combine ingredients in order given, using a small amount of milk or meat stock to moisten. Line an oiled mold with cooked rice ½ inch deep. Pack the meat mixture into the mold. Cover with layer of rice and steam for 45 minutes. Serve on hot platter with tomato sauce.

Sweet Potatoes and Hawaiian Pineapple En Casserole

6 medium-sized sweet potatoes
2 tablespoons butter
4 or 5 slices of pineapple
¼ cup pineapple juice
Brown sugar
Marshmallows

Cook the potatoes in boiling salted water until soft. Drain, peel, and mash with wire potato masher or ricer. Add butter and pineapple juice and beat until light and smooth. Half fill baking dish with potato, cover with layer of wedge-shaped pieces of pineapple and marshmallows cut in halves. Fill dish with potatoes and lay slices of pineapple on top. Sprinkle with brown sugar. Place whole marshmallows in holes of pineapple slices. Bake in a moderate oven until marshmallows are brown and melt slightly.

Canned Chicken and Corn

1 quart can chicken
1 pint can corn
¼ teaspoon pepper
1 teaspoon salt
¾ cup cracker crumbs
1 cup thin cream

Arrange diced chicken and corn in alternate layers in buttered baking dish, sprinkling each layer with seasoning and crumbs. Add broth from chicken and pour cream over all. Bake in a moderate oven (325 to 400 degrees) for 35 minutes.

Scalloped Potatoes With Canned Sausage Balls

Butter a casserole and put in a layer of finely sliced raw potatoes and then a layer of canned sausage balls. Alternate layers of potatoes and sausage until the casserole is filled within 1½ inches of the top. Cover with milk and season with salt and pepper. Bake for 1 hour on top of the stove or 2 hours in the oven. Serve hot in casserole.

Luncheon Eggs
6 hard-cooked eggs
Cooked chicken, finely chopped
Mayonnaise
1 teaspoon chopped chives
Capers
Watercress or shredded lettuce

Cut the eggs in two, lengthwise, mash the yolks and add an equal amount of the chicken. Mix the mayonnaise and chives and add, blending well. Cut a slice off the bottom of egg halves. Re-fill egg whites with the mixture. Put a caper on top. Serve with mayonnaise dressing on a bed of cress or lettuce. Serves 4 to 6.

Large Supper Omelet
6 eggs
½ teaspoon salt
6 tablespoons milk

Separate the eggs and beat the yolks until thick, add the salt and milk. Beat the egg whites very stiff, and fold the first mixture into them carefully. Turn into a warmed, well-oiled omelet pan or heavy frying pan, and begin the slow cooking on top of the stove. Have the oven at a very moderate temperature, and after the omelet has partly risen, set it in the oven to finish. Between 10 and 15 minutes will be needed. Remove, loosen one side, fold over, garnish, and serve immediately on a hot platter. Serves 4

Baked Eggs
1 cup canned tomatoes
2 cups soft bread crumbs
6 eggs
2 tablespoons butter
½ teaspoon salt
¼ teaspoon paprika

Pour tomatoes into a greased quart-size baking dish. Add 1 cup crumbs and mix well. Break the eggs whole into the dish. Melt the butter, stir into remaining crumbs. Sprinkle buttered crumbs, salt and paprika over the eggs and bake in a slow oven (275 degrees) from 15 to 20 minutes. Serves 6.

Macaroni With Spinach and Ham
2 cups cooked macaroni
2 cups cooked spinach
2 tablespoons butter
2 tablespoons flour
1 cup milk
½ teaspoon salt
Pepper to taste
1 cup cooked ham

Chop the seasoned spinach, press into a buttered ring mold, place in a pan of hot water, and keep hot until serving time. Make a white sauce by melting the butter, blending the flour into it, and adding the milk and seasoning. Add the ham, chopped fine, to the white sauce. Remove the spinach to a hot platter, surround with the hot macaroni, and fill the center with the creamed ham. Serves 6.

Spaghetti With Mushrooms
1 cup spaghetti
1 can tomato soup
½ cup mushrooms, diced
2 or 3 tablespoons butter
½ cup cheese, grated

Cook the spaghetti in boiling salted water until tender. Drain, rinse with cold water, and add to the tomato soup. Brown the mushrooms in butter, and add the cheese to the spaghetti. Heat all together thoroly and serve. Serves 2.

Spaghetti With Meat Balls
1 package spaghetti
1 pound ground raw beef
1 onion, chopped
2 eggs
1 cup bread crumbs
Pinch of salt
Dash of pepper

Mix the ingredients except the spaghetti and form into balls. Fry until brown. Make a thick gravy from the grease in which the balls have been fried, and add 1 can tomato soup. Add the meat balls and simmer for a while. Boil the spaghetti in salted water until tender. When ready to serve, place the balls on top of the spaghetti and pour gravy over all. Serves 6.

Syrian Macaroni

1 half-pound package macaroni
1 pint tomatoes
¼ teaspoon cinnamon
¼ teaspoon allspice
1 teaspoon salt
¼ teaspoon black pepper
1 cup chopped, cooked mutton or other meat
Cheese

Break the macaroni into boiling water and boil until it is tender. Drain and put into a baking-dish. Add the canned tomatoes and spices. Chop the mutton or any other meat in the food chopper, using a coarse blade so it will not be too fine. Brown the meat in a skillet and partially fry it. Add the meat to the macaroni, tomatoes, and spices. Grate the cheese or slice it very thin and arrange over the top of the dish. Bake in a moderate oven (325 degrees) until it is done. Serves 6.

Spaghetti Italienne

½ teaspoon black pepper
¼ cup olive oil
1 onion, minced
3 tablespoons tomato paste
½ cup water
3 cups tomatoes, drained
1 bay leaf
1 teaspoon salt
1 tablespoon sugar
½ pound spaghetti
½ cup grated cheese

Add the pepper to the oil and cook the onion in this until brown. Mix the tomato paste with the water and add in 3 installments to the oil and onion, cooking until well-blended each time. Add the drained tomato, the bay leaf, and the salt. Cook 30 minutes, then add the sugar and cook 15 minutes longer.

Cook the spaghetti in boiling salted water until tender. Pour the sauce over it and sprinkle with grated cheese. One-half cup fresh sliced cooked mushrooms or chicken livers may be added to the sauce.

Mexican Eggs

1 pint canned tomatoes
1 teaspoon salt
1 tablespoon butter
1 cup water
1 small onion
1 clove garlic
6 small green hot peppers or ¼ teaspoon cayenne
8 eggs

Put in a saucepan the tomatoes, salt, butter, and water. Add the onion, garlic, and peppers, chopped fine. Cook until thick and the water has evaporated. Beat the eggs slightly with a fork, add to the mixture, and cook like scrambled eggs. Serves 6.

Eggs and Corn Camp Style

Cut 6 slices of bacon in ½-inch pieces and fry until brown. Add one can of corn. When it begins to bubble, add 3 eggs, beaten slightly. Stir with a spatula. Serves 4.

Eggs a la Des Moines

On a generous bed of lettuce on a salad plate, place 1 slice of baked ham (about ⅛-inch thick). On the ham place 2 or 3 slices of tomato. Quarter 1 hard-cooked egg, arranging the quarters at the side and on top of the tomatoes. Pile on a generous helping of Thousand Island dressing and serve at once. Serves 1.

Noodle Ring

¼ cup melted butter
3 cups cooked noodles
3 eggs, separated

Stir the butter into the freshly cooked noodles. Add the well-beaten egg yolks, and fold in the whites, beaten stiff. Pour into a ring mold, set in a pan of water, and bake in a moderate oven (350 degrees) for 20 minutes, or until a knife thrust into it will come out clean. Unmold on a hot platter, and fill the center with any creamed vegetable, meat, fish, or pleasing combination. Buttered peas and carrots, with a generous supply of baked ham cubes, produces good color scheme. Serves 4.

CANDY

Bologna Candy

2 cups white sugar
1 cup thin cream
1 package dates
½ cup coconut
½ cup nut meats
1 teaspoon vanilla

Boil sugar and milk until it forms a soft ball in cold water. Add dates, which have been stoned and chopped. Continue beating until it separates from pan. While still being stirred, add nut meats and coconut. Remove from fire, let cool, then put in vanilla and pour on a cloth that has been dipped in cold water. Roll into a loaf. Cool and slice.

After-Dinner Mints

2 cups sugar
½ cup water
½ cup white corn sirup
¼ teaspoon cream of tartar

Place sugar, water, sirup, and cream of tartar in a sauce pan and boil to the soft ball stage. Remove from fire and divide into 2 parts. To 1 part add ½ teaspoon peppermint extract and a few drops of green fruit coloring; to the other add ½ teaspoon wintergreen extract and a few drops of red coloring. Stir until creamy, and drop by teaspoonfuls onto waxed paper.

Peanut Clusters

In the top of a double boiler place ½ pound of dipping chocolate and one tablespoon cocoa butter. Keep hot, but do not let water boil, until melted. Then add ½ pound of salted peanuts, shaken thru sieve to remove excess salt, and stir until they are well coated with chocolate. Drop by spoonfuls on oiled paper and let harden, but do not freeze.

Candied Orange Peel

Remove the peel from 3 oranges. Cut into long strips. Cover with cold water and let come to a boil. Drain, cover again with cold water, and let come to a boil. Repeat this operation once again. Drain and drop into a sirup made by boiling 1 cup sugar and ½ cup water together for 5 minutes. Cook the rind in the sirup slowly until very little of the sirup remains in the mixture. Turn out onto a waxed paper, sprinkle with granulated sugar, and toss until coated with the sugar.

Butterscotch

1 cup sugar
4 tablespoons molasses
1 tablespoon vinegar
2 tablespoons boiling water
½ cup butter

Stir the ingredients together and cook without stirring to the hard crack stage. Turn into a large buttered tin, making a thin layer. When partly cool, mark in squares or break in pieces. Nut meats may be added.

Sprinkle with chopped salted nut meats. Let harden and crack into irregular pieces.

Tomato Figs

8 pounds tomatoes
3 pounds brown sugar

Peel pear-shaped tomatoes without scalding if possible. Add sugar and cook without water until sugar penetrates fruit and they have a clear color. Spread on plates and dry in the sun, adding a little sirup each day as they dry. When dry, cover with powdered sugar and pack in layers in boxes with oil paper between. These are similar to preserved figs.

Fondant

2 cups water
⅓ cup white corn sirup
½ cup boiling water

Stir over flame until sugar is dissolved and ready to boil. Wrap cheese cloth around fork and wipe side of the pan to remove grains of sugar. Cook until soft ball forms in cold water. Pour immediately into earthenware bowl and let get cold. Then, with a wooden spoon, work until white and stiff. Put in bowl with damp cloth over it and let stand at least 24 hours.

Take small amounts of it and flavor and color, or add nut meats or coconut, and mold. This is also good stuffing for dates.

Candied Grapefruit Peel

Remove the peel from 2 medium-size grapefruits. Cut into long strips. Cover with cold water and let come to a boil. Drain, and repeat until all trace of bitterness is gone. It is sometimes necessary to use 6 changes of water. Proceed as in making candied orange peel.

Taffy Apples

1 cup white sugar
1 cup brown sugar
½ cup water
½ cup vinegar
Apples

Cook the above mixture of sugar, water, and vinegar until it comes to the hard crack stage when it is tested in cold water. Dip the apples by means of a stick or skewer until they are thoroly covered.

Apricot Candy

½ cup dried apricots
½ cup nut meats
½ cup grated coconut
Lemon flavoring

Soak apricots slightly in cold water, and put thru food chopper. Chop nut meats and add apricots. Add coconut and flavoring. Mix well and roll on a sugared board ¼ inch thick. Cut in squares.

Pop Corn Balls

5 quarts popped corn
2 cups sugar
1½ cups water
½ cup white corn sirup
⅓ teaspoon each of salt and vinegar
1 tablespoon vanilla

Stir sugar, water, and corn sirup until all sugar is dissolved. Boil without stirring in any way until thermometer registers 260 degrees or until a medium-hard ball is made when dropped into cold water. Add the remaining ingredients and boil until a hard ball is made in cold water or the thermometer registers 264 degrees. If a candy or cooking thermometer is available it will simplify the making of the balls. Have corn, piping hot, in a large flat pan; pour on sirup gradually, using a spoon to turn so that the corn may be evenly coated. Rub the hands with corn oil and press the corn into balls.

Chocolate Pop Corn Confection

2 cups white sugar
½ cup corn sirup
2 ounces chocolate
1 cup water

Make as for pop corn balls except that the pop corn should be spread out in a very flat pan and the mixture should be thoroly stirred as the sirup is being poured so that every kernel is evenly coated. This confection is not made into balls but is eaten in single-coated kernels like the nicer grades of cracker jack.

Divinity

3 cups white sugar
1 cup white corn sirup
1 cup boiling water
Whites of 3 eggs
1 cup nut meats
1 teaspoon almond extract

Boil sugar, sirup, and water until it forms a hard ball when dropped in cold water. Pour slowly over stiffly beaten whites and beat until it begins to get stiff. Add flavoring and nut meats, mold in loaf pan to slice when thoroly cold and set, or drop in lumps the size of a walnut on oiled paper.

Mexican Orange Candy

1 cup granulated sugar
1½ cups rich sweet milk
2 cups sugar
Grated rind of 2 oranges
Pinch of salt
½ cup butter
1 cup nut meats (black walnuts or pecans)

Melt the first cup sugar in a large kettle while the milk is scalding in a double boiler. When the sugar is melted to a rich yellow, add the hot milk all at once, stirring. It will boil up quickly so be sure to use a large kettle. Add 2 cups sugar to this mixture, stirring until dissolved, and cook until it forms an almost-hard ball in water (238 degrees). Just before it is done add the grated orange rind, the salt, butter, and nut meats. Beat until creamy and pour on a buttered platter to cool.

Chocolate Dainties

1 or 2 pounds of confectioners' milk chocolate. Place the chocolate over hot water in a double boiler. When almost melted, remove from fire and beat until lukewarm or 85 degrees. Then dip any of the following fruits or nuts you prefer:

Peanuts, pecans, almonds, Brazil nuts, candied orange, lemon or grapefruit peel, raisins, dates, figs, or fresh California grapes.

Place on wax paper to cool.

Cracker Jack

1 cup mild molasses or sorghum
1 cup brown sugar
2 cups white sugar
½ cup water
2 tablespoons butter
1 teaspoon vinegar
½ teaspoon soda
6 quarts pop corn
1 cup peanuts

Mix molasses, sugar and water; boil until hard ball stage is reached. Add butter and vinegar and boil for 30 seconds longer. Add soda in 1 teaspoon of hot water. Use large variety of corn and have it freshly popped and thinly spread in a shallow pan. Pour over sirup very slowly, add peanuts, and stir until every kernel is well coated. Take into a cool place and move constantly until kernels are solid and do not stick together.

Parisian Sweets

1 package dates
1 package shredded coconut
½ cup chopped nut meats
½ pound dried figs
1 tablespoon orange juice
1 teaspoon chopped orange rind

Heat the grinding part of the food chopper in boiling water and put nuts, dates, figs and coconut thru it. Knead in the orange juice and chopped rind. Divide the mixture into halves, placing one-half of it in tightly. Crease the surface with a knife into small squares and place a nut meat on each square. Chill thoroly, then cut with a sharp knife on creases. The other half should be rolled into tiny balls, which are rolled in finely chopped nut meats or shredded coconut.

Old English Toffee

½ cup butter
2 cups sugar
½ pound blanched almonds, split
½ pound sweet dipping chocolate
¼ pound roasted salted almonds or pecans

Melt the butter in a skillet. Add the sugar and stir until melted and rich brown in color. Add the almonds and continue to cook, stirring until the almonds are cooked thru. Pour the mixture onto a buttered pan or onto a marble slab. Cool, and when almost hardened loosen the edges and turn over so that the flat surface is on top. Allow to cool, then melt the dipping chocolate over warm, but not boiling water, and coat the top surface. Sprinkle with the chopped, salted almonds or pecans. Let harden and break into irregular-sized pieces and store in a cool place.

MEATS

Spanish Veal Loaf
2 pounds shoulder veal
1 pound ham from shank-end
¾ cup milk
½ green pepper, minced
½ small onion, minced
2 eggs
1 tablespoon minced parsley
1 No. 1 can tomatoes

Grind veal and ham together. Add other ingredients except tomatoes and mix. Pack into greased loaf pan. Pour tomatoes over loaf and bake in moderate oven (350° F.) 1½ hours. Unmold on hot platter. Garnish with slivers of green pepper and slices of hard-cooked egg, sprinkled with paprika. Serves 8 to 10.

Stuffed Meat Loaf
2½ pounds ground beef
1 whole egg
1 egg yolk
¼ clove garlic, finely minced
1 medium-minced onion
3 thick slices bread
1½ teaspoons salt
Pepper
1 dill pickle
2 hard-cooked eggs
Mushrooms, celery, or carrots

Mix chopped beef, eggs, and seasonings. Add bread, soaked in water and squeeze dry. Mix well and roll out on board with rolling pin. Place on meat near edge strips of dill pickle shredded into noodle-like pieces and roll until all strips are covered. Add layer hard-cooked eggs cut in slices and roll meat over this. Place layer raw mushrooms, parboiled celery, or parboiled slice carrots, and roll last of meat over layer of filling. Spread with melted fat and place on rack. Roast about one hour in moderate oven (350° F.). Cool and slice carefully so stuffing does not fall out. Serves 8 to 10.

Tomato Hamburger Pie
1 medium-sized onion cut fine
Small piece suet
½ to 1 pound hamburger
2 teaspoons salt
¼ teaspoon pepper
1 beaten egg
1 cup canned tomatoes
1 cup cooked green beans
1 teaspoon sugar
3 cups seasoned mashed potatoes

Cook onion in melted suet until soft and yellow. Add hamburger, salt, and pepper and continue cooking until lightly browned, stirring occasionally. Add tomatoes, green beans, and sugar, mixing well. Place in greased casserole and top with mashed potatoes which have been well seasoned and beaten with the egg until very fluffy. Bake in a hot oven (425° F.) until nicely browned. Serves 4 to 6.—Mrs. M. L., Ohio.

Salmon Casserole
3 tablespoons butter
4 tablespoons flour
2 cups milk
1 cup drained canned peas
1½ cups (medium-sized can) salmon
2 tablespoons diced pimiento or green pepper
1 teaspoon lemon juice
Salt and pepper to taste
½ cup fine bread crumbs, mixed with 3 tablespoons melted butter

Make smooth white sauce of butter, flour, and milk. Add peas, salmon (with bones and skin removed and flaked into small pieces), pimiento or green pepper, and lemon juice. Season with salt and pepper. Pour in buttered casserole and cover with buttered bread crumbs. Bake in moderate oven (350° F.) 30 minutes. This recipe makes a nourishing one-dish meal and serves nicely for luncheon or supper with crisp-fresh vegetable salad and hot rolls. Serves 6 to 8.—Mrs. H. J., Wis.

Wisconsin Liver Sausage

1 quart ground, cooked pork liver
1 quart ground, cooked pork (half lean and half fat)
1 tablespoon salt
1 teaspoon pepper
2 tablespoons powdered marjoram
1 teaspoon caraway seeds
1 cup liquor from cooked meat, or enough to cover

Cook liver until slightly underdone or somewhat red in center, then cool in liquid. Cook pork until tender and cool in liquid. Grind liver in food chopper, using fine blade. Grind or chop the pork coarsely. Mix two meats and season with more salt if necessary. Add pepper, marjoram, and caraway seeds. Add enough liquor from meat to resemble cooked oatmeal. Fill well-cleaned casings, not too tightly, tie, cover with broth and simmer 30 minutes. Run cold water over meat 1 minute, then drain, and let stand. Slice as needed. The mixture may be molded in a greased loaf pan and chilled until firm. The seasonings may be varied to suit taste and a little onion or sage may be added if desired. When put into casings and smoked with ham and bacon it develops a delicious flavor.—Mrs. A. F. W., Wis.

Baked Lamb Ring

2 pounds ground lean lamb
1 cup milk
1 egg
2 tablespoons minced onion
1 green pepper, minced
6 to 8 bacon slices
1½ teaspoons salt
⅛ teaspoon pepper
2 tablespoons chopped parsley

Combine ingredients and mix thoroly. Arrange bacon slices crosswise at equal intervals in ring mold so they cover bottom and come up sides. Pack loaf mixture in pan, bake in moderate oven (350° F.) 1 hour. Turn out on round plate. Fill center with creamed potatoes, peas, or diced carrots; and place other vegetables around loaf. In carving ring, cut between bacon slices.

Ham With Apricot Stuffing

12 pounds fresh ham
1 pound dried apricots
¼ cup butter
½ cup finely chopped celery
1½ teaspoons salt
½ cup finely chopped parsley
¼ cup finely chopped onion
4 cups fine, dry, bread crumbs

Trim off skin and remove bones of ham with sharp knife. Wash and drain apricots, but do not soak or cook. Cut apricots into narrow strips with scissors. Melt butter in skillet, add celery, parsley, and onion, and cook a few minutes. Add bread crumbs and salt, then apricots, and stir until well mixed and hot.

Wipe boned ham with damp cloth, lay fat side down, and cut gashes in the thickest part of lean to make more room for stuffing, but do not cut thru to outside fat. Sprinkle with salt and pepper, spread some of hot stuffing over meat, and, beginning at hock, sew cut edges together to form pocket. Gradually work in rest of stuffing. Sew up butt end and rub outside with salt, pepper, and flour.

Place fat surface upon rack in open pan without water and roast in moderate oven (350° F.) until meat is tender. A 12-pound ham will require about 5 hours to cook, and do not cover or add water. Leave fat side up while roasting, and it will not need basting.—Mrs. M. E. R., Kans.

Liver Patties

Force 1 pound of liver thru a food chopper, using medium blade—or it may be chopped in mixing bowl. Add 1 beaten egg, 1 teaspoon salt, ⅛ teaspoon pepper, and ½ cup milk. Sift 1 cup flour with 2 teaspoons baking powder, add to liver, and mix thoroly. This should form medium batter. Drop by heaping spoonfuls in a generous amount of hot shortening. Fry until nicely browned, turning once. Serve hot.

Barbecued Spareribs

Sprinkle 4 pound spareribs with salt and pepper and arrange in roaster. Place in moderate oven (350° F.), and while browning, baste often with barbecue sauce, turning them from time to time. Roast until very tender and serve at once. The ribs may be cut into suitable portions for serving before cooked if desired.

Barbecue Sauce

2 teaspoons butter
1 small onion
½ cup tomato catsup
1 tablespoon commercial meat sauce
2 tablespoons prepared mustard
2 tablespoons vinegar
⅛ teaspoon red pepper
1 teaspoon celery seed
1 cup hot water or meat broth

Melt butter in saucepan, add onion diced fine, and cook slowly until onion is yellow. Add remaining ingredients and simmer 15 minutes. Serves 6 to 8.—Mrs. W. R., Ohio

Swiss Cream Steak

2 pounds round steak cut ¾ inch thick
¼ cup butter or fryings
2 medium-sized onions, sliced
½ cup water
½ cup thick, sour cream
2 tablespoons grated cheese
Salt and pepper to taste

Cut steak into suitable pieces for serving. Sprinkle with salt and pepper and fry in hot shortening until both sides are golden brown. Add the onions, water, cream, and cheese, and cover tightly. Simmer until the meat is tender, or it may be smothered in a slow oven. Serve with baked potatoes and buttered green beans or corn. Serves 6 to 9.—Mrs. J. F., Iowa.

Grandma's Meat Balls

1 pound lean pork, ground
1 pound beef, ground
2 beaten eggs
1 medium-sized onion, cut fine
1 teaspoon salt
1 teaspoon chili powder
2½ cups coarse, dry bread crumbs
1 cup water

Mix ingredients, mold into small egg-sized balls. Drop in boiling tomato mixture made of the following:
1 can condensed tomato soup
2 cups water
1 teaspoon chili powder
1 medium-sized onion, cut fine
½ green pepper, cut in strips
Salt to taste

Bake in moderate oven (350°) 1 hour. Serve balls on large, deep platter. Serves 6 to 8.—Mrs. W. B. H.

Veal Supreme

1½ pounds veal steak ¾ inch thick.
1 beaten egg
1 cup fine, dry bread crumbs
½ cup thick sour cream
½ pound fresh or canned mushrooms
¼ cup butter and other shortening

Cut veal into individual portions. Sprinkle generously with salt and pepper, dip in beaten egg, then dredge in crumbs. Meantime, heat butter and shortening in heavy skillet. Brown pieces of meat lightly on both sides. Add cream, reduce heat, cover tightly, and smother 30 minutes. Chop mushrooms, add to meat, cover, and continue smothering 30 minutes. The mushrooms may be sautéed separately and served over the meat, or they may be omitted entirely. Serves 6.—R. M. A., Mich.

Spanish Pork Chops

6 pork chops (⅔ inch thick)
Salt and pepper
⅓ cup flour
2 tablespoons shortening
3 tablespoons diced onion
3 tablespoons diced green pepper
3 tablespoons diced celery
1 cup canned tomatoes

Sprinkle chops generously with salt and pepper and dredge with flour. Heat shortening in heavy pan, add chops, and brown lightly on both sides. Add tomatoes, onion, green pepper, and celery, and cover tightly. Place in moderate oven (350° F.) and bake 1¼ hours. We like to serve chops with fluffy baked potatoes and creamed corn. Serves 6.—H. G. S.

VEGETABLES

Salmon Stuffed Peppers

6 large green peppers
2 tablespoons butter
2 tablespoons flour
1 cup milk
2 tablespoons chili sauce
¼ teaspoon mustard
1½ cups flaked canned or cooked salmon
1 diced hard-cooked egg
Salt and pepper to taste

Cut slice from stem end of each pepper and remove seeds and tough membrane. Cover with boiling water and boil 5 minutes. Drain, cover with cold water, let stand a few minutes, then turn upside down to drain. Melt butter, add flour, and smooth to paste. Add milk, stir, and cook to smooth sauce. Remove from stove and add remaining ingredients. Fill peppers and arrange in baking dish. Cover each pepper with fine, dry crumbs mixed with melted butter. Place 3 tablespoons water in dish and bake in moderate oven (350° F.) 40 minutes. Serve hot. Serves 6.—Mrs. E. J., Ohio.

Home-Baked Beans

3 cups navy beans
½ teaspoon soda
½ pound cured ham
1 teaspoon salt
⅛ teaspoon pepper, ginger, allspice, nutmeg, and cinnamon
6 tablespoons brown sugar
About 1 cup catsup

Wash beans, add soda and water to cover, and parboil. Drain beans, add fresh water to cover, and boil 15 minutes, or until skins loosen. Drain again, then place beans in baking dish or bean pot. Bury ham in beans and add remaining seasonings with boiling water to barely cover. Bake at 300° F. 2½ to 3 hours. Serves from 6 to 8 helpings.—H. Y.

Baconized Corn

Cut as much fresh corn as needed. Place in baking dish and sprinkle with sugar, salt, and pepper to season. Arrange strips of bacon over corn and bake in moderate oven (375° F.) until bacon is crisp.

Corn may be added to shelled beans which have been cooked tender and seasoned with butter or bacon fat. Cook only long enough to set milk of corn. Season to taste and serve.—Miss V. W., Iowa.

Creamed Beets

6 medium-sized beets
¾ cup thick sweet cream
1 tablespoon prepared mustard
1 teaspoon vinegar
1 tablespoon sugar
Salt
Pepper

Cook beets until tender. Cool slightly, peel, and dice. Add cream, mustard, vinegar, sugar, and salt and pepper to taste. Mix and cook over a low heat 5 minutes. Serve hot. Serves 4 to 6.—Mrs. A. F., Mich.

Cabbage au Gratin

1 medium-sized head cabbage
4 slices bacon
1 tablespoon grated cheese
1 tablespoon fine, dry bread crumbs
2 cups medium white sauce
1 tablespoon melted butter
Salt
Pepper

Chop cabbage and cook barely tender in boiling, salted water. Drain and place in buttered casserole. Cover with white sauce. Sprinkle with grated cheese, bread crumbs, and butter blended together. Lay slices of bacon over top. Bake in a moderate oven (375° F.) until bacon is crisp and crumbs are browned. This dish serves 6.

Asparagus Casserole

This is a satisfying dish and makes a good meatless meal.

15 to 20 fresh asparagus tips
5 hard-boiled eggs
4 tablespoons butter
4 tablespoons flour
1½ cups rich milk
Salt and pepper to taste
¼ cup grated cheese, if desired
1 cup buttered bread crumbs

Cut the asparagus into 1-inch lengths. Cook in boiling, salted water until barely tender, then drain. Meanwhile, hard-cook the eggs. Make a white sauce of the butter, flour, and milk, and season to taste with salt and pepper. Arrange alternate layers of asparagus, sliced, cooked eggs, white sauce, and cheese in a greased casserole. Sprinkle with the buttered bread crumbs and bake in a moderate oven of 350° F. for about 30 minutes. Serve hot from the dish in which it was baked.

Serve with a tomato gelatine salad, garnished with new lettuce or hearts of dandelion.—Mrs. E. V. H., Ind.

Fried Onions and Apples

3 cups sliced apples (unpeeled)
3 cups sliced onions
4 tablespoons butter or bacon fryings
1 teaspoon salt
⅛ teaspoon pepper
3 tablespoons sugar

Place apples and onions in heavy skillet in which butter has been melted. Sprinkle with salt, pepper, and sugar. Fry slowly 20 minutes, or until onions are delicately brown and very tender. Stir frequently. Serves 6. This is a surprisingly good dish with roast fowl.

Red Kraut

2 cups sliced, cooked beets
4 cooking apples, peeled, and cut in eighths
2 tablespoons seedless raisins
2½ cups sauerkraut

Combine all ingredients, cover, and simmer until the apples are soft. Serves 5 good-sized helpings.

Turnips, Bohemian Style

8 medium-sized turnips
2 tablespoons butter or meat fryings.
1 medium-sized onion, chopped
½ teaspoon caraway seeds
2 tablespoons sugar
1 teaspoon salt
¼ teaspoon black pepper
1 medium-sized apple, pared and chopped fine
½ cup cider vinegar (not too strong)
1 cup water

Pare the turnips and shred. Melt the butter or fryings, add the onion and cook gently until the onion is soft and yellow. Add the caraway seeds, sugar, salt, pepper, shredded turnips, chopped apple, vinegar, and water. Cook until the turnips are tender and most of the liquid is absorbed. Serves 6.

Green Beans With cheese

Cook 2 pounds green beans until tender in salted, boiling water or use equivalent in canned green beans. Drain and arrange layer of beans in buttered baking dish. Sprinkle generously with grated cheese (about 1 cup) and repeat layers of beans and cheese until beans are used. Dot with bits of butter, sprinkle with salt and pepper, and pour over ¼ to ½ cup thick sweet cream. Bake in moderate oven (350° F.) until cheese is melted. Serves 6 to 8.—Miss A. J., Nebr.

Lima Beans

1½ cups dry lima beans
¾ cup raw, cubed carrots
1 medium-sized onion
3 slices bacon
3 cups sieved tomatoes
1 teaspoon salt

Parboil beans 30 minutes and discard water. Cut bacon into small pieces, fry crisp and remove. Fry chopped onion and cubed carrots in bacon fat until lightly browned. Use some of fat also to grease baking dish. Mix tomatoes, lima beans, bacon, and browned vegetables. Place in baking dish and bake in moderate oven (350° F.) one hour. Serves 6 to 8.

BREADS AND ROLLS

Apricot Bread

1½ cups dried apricots
½ cup chopped nut meats (we prefer almonds)
2 tablespoons shortening
¾ cup sugar
1 egg
1 cup milk
3 cups flour
4 teaspoons baking powder
½ teaspoon salt

Wash apricots, barely cover with water, and cook 5 minutes. Drain, cool, and chop. Add chopped nut meats. Cream shortening, sugar, and egg until smooth and fluffy. Add cooked fruit mixture. Alternate milk with flour which has been sifted with baking powder and salt, stirring only until well combined. Place in greased loaf pan and bake in a moderate oven (350° F.) about 1 hour. Makes 1 medium-sized loaf. Excellent for sandwiches and with a hot drink.—Mrs. H. E. C., Nebr.

Prune Whole-Wheat Bread

1 cup brown sugar
3 tablespoons soft shortening
1 egg
1 cup seeded, chopped, cooked prunes with juice to fill cup
1 cup flour
1 teaspoon soda
1 teaspoon baking powder
½ teaspoon salt
1 cup whole-wheat flour
Few chopped nut meats if desired

Cream sugar, shortening, and egg. Add prunes, then flour sifted with soda, baking powder, and salt. Add whole-wheat flour and nut meats and mix thoroly. Place in greased loaf pan and spread to corners. Bake in moderate oven (350° F.) 55 to 60 minutes. Cool in pan. The prune bread always keeps deliciously moist.

Refrigerator Rolls

1 cake compressed yeast
1½ cups warm water
⅔ cup sugar
7½ cups flour
⅔ cup shortening
1 cup mashed and sieved potatoes
2 eggs
Salt

Add ½ cup water to yeast, and dissolve. Cream shortening and sugar, add potatoes, salt, and beaten eggs. Add yeast and water. Mix in one-half flour and beat until foamy. Add rest of flour and mix stiff. Let rise until double in bulk, then stir down, cover, and store in refrigerator. The dough will keep for several days. Mold into rolls as wanted. Let the rolls rise and bake in moderately hot oven (400° F.).

Oatmeal Bread

2 cups oatmeal
4 cups boiling water
¼ cup molasses
¼ cup sugar (may be omitted)
2 teaspoons salt
3 tablespoons melted shortening
1 cake compressed yeast
About 7 to 7½ cups flour

Place oatmeal in large mixing bowl, add boiling water, stir, cover, and let stand until lukewarm. Add molasses, sugar, salt, melted shortening, and crumbled yeast; add flour gradually and mix to soft dough. Turn out on floured surface and knead lightly. Place in greased bowl to rise. Divide into 3 equal-sized loaves and place in greased loaf pans. Let the loaves rise in warm place and bake in moderate oven 45 to 50 minutes. Brush loaves with fat while hot. Three-fourths cup nut meats or raisins may be added if they are desired.

Raised Tea Ring

1 cake compressed yeast
½ cup sugar
2 tablespoons lukewarm water
1¼ cups scalding milk
4½ tablespoons shortening
1 egg
1 teaspoon salt
⅜ teaspoon mace or a little grated lemon rind
4½ cups sifted flour (about)

Dissolve yeast in lukewarm water to which 1 teaspoon sugar has been added. Add remaining sugar to scalding milk; add shortening and cool to lukewarm. Stir in dissolved yeast, 1½ cups flour and beat thoroly. Cover, and let stand in cozy place until light and full of bubbles. Add beaten egg, salt, mace or grated lemon rind, and enough flour to make smooth, soft dough. Knead lightly, place in greased bowl, cover, and let rise until double in bulk. Turn out on floured surface and divide into 2 equal portions. Roll each portion ½ inch thick (if doughnuts are desired, cut into doughnuts at this stage and let rise). Spread dough with filling and roll in jelly-roll fashion. Place each roll in circle in well-greased round pan or on greased baking sheet, with ends pressed together. Snip or cut circle with scissors, making cuts 1 inch apart. Twist each cut slightly so that filling shows and let rise until light. Bake in a moderate oven (375° F.) about 30 minutes. Serve warm or cold. The hot rings may be frosted thinly with confectioners' sugar frosting if desired.

Filling:

1 cup flour
½ cup sugar
½ cup soft butter
1 teaspoon cinnamon
½ cup raisins or currants

Blend the flour, sugar, butter, and cinnamon to a crumbly mass. Sprinkle over the sheets of dough and roll each portion as described above.—Mrs. O. P. P., Wisconsin.

Buckwheat Pancakes

1 cake dry yeast
½ cup lukewarm water
1 quart boiled water
1 tablespoon sugar or molasses
4 cups buckwheat flour
4 cups general-purpose flour

Place yeast in gallon size mixing bowl or crock. Add lukewarm water and soak 1 to 3 hours or until yeast is soft. Add boiled water, cooled to lukewarm, then sugar or molasses, buckwheat flour and general-purpose flour, beating thoroly to smooth stiff batter and adding additional lukewarm water if necessary to make proper consistency. Cover and let stand overnight in fairly warm place. In the morning remove portion for cakes and thin with sour milk, in which 1 teaspoon salt and 1 teaspoon soda have been dissolved. Bake on fairly hot griddle. Add additional boiled water cooled to lukewarm and equal parts buckwheat flour and general-purpose flour to remaining "seed" in the crock and store overnight.—Mrs. J. H. C., Ohio.

Dutch Honey

1 cup brown sugar
1 cup white sirup
1 cup cream

Mix ingredients and boil 2 minutes. Pour in pitcher and serve hot. —Mrs. R. O., Mo.

Quick Whole-Wheat Bread

1½ cups whole-wheat flour
½ cup general-purpose flour
1 teaspoon baking powder
1 teaspoon salt
1 cup sour milk
2 tablespoons molasses
1 tablespoon melted shortening
½ teaspoon soda—dissolve in 1 tablespoon warm water

Combine first 4 ingredients. Place remainder in mixing bowl, add dry ingredients, and beat well. Turn in well-greased and floured loaf pan. Bake 1 hour in a moderately slow oven (325 to 350° F.). Makes one small loaf. Serve warm or cold.

Blueberry Muffins

¼ cup shortening
⅓ cup sugar
1 egg
1 cup milk
2⅔ cups general-purpose flour
3 teaspoons combination type baking powder, or 5 teaspoons tartrate or calcium phosphate baking powder
½ teaspoon salt
1 cup fresh blueberries (drained canned berries may be used)

Cream the shortening and sugar, add the egg, and beat until smooth. Add the milk alternately with the flour, which has been sifted with the baking powder and salt. One-third cup may be used to dredge the berries but if the batter is stiff enough, the berries will not sink. Stir the batter only until mixed, then fold in the berries. Drop by spoonfuls into greased muffin pans, filling about ¾ full. Bake in a moderate oven of 400° for 25 minutes; serve hot. These make a dessert as well, when served with cream and sugar. —Mrs. I. Q., Iowa.

Gingerbread

The spacious old southern kitchen at Mount Vernon was spicily fragrant with frequent bakings of this popular cake:

⅓ cup butter
⅔ cup boiling water
1 cup molasses
1 beaten egg
2¾ cups sifted flour
1½ teaspoons soda
½ teaspoon salt
1 teaspoon cinnamon
1 teaspoon ginger
¼ teaspoon cloves

Combine butter and boiling water. Add molasses and egg. Add flour which has been sifted 3 times with remaining ingredients and beat very smooth. Bake in a greased loaf pan 8x13 inches in a moderate oven (350° F.) for 45 minutes. Cut in squares while hot and top with whipped cream. Serve immediately.

Delicious Breakfast Crumb Cakes

2 eggs
1 teaspoon soda
1 pint buttermilk or sour milk
2 tablespoons melted shortening
Day-old bread, crumbled fine to measure 1½ pints
½ cup flour
2 teaspoons baking powder

Place the eggs in a mixing bowl and beat until light. Dissolve the soda in the buttermilk, add to the beaten eggs with the melted shortening, and mix well. Add the bread crumbs, then the flour (which has been sifted with the baking powder) and stir until a fairly stiff batter is formed. Bake on a hot griddle as in making pancakes and serve at once with plenty of butter. Serves 4 to 6.

Kolaches

1 cup scalded milk
1 teaspoon sugar
1 cake compressed yeast, crumbled
1½ cups flour

Cool scalded milk to lukewarm. Add sugar, compressed yeast, and flour and beat to smooth soft sponge. Cover and let stand until double in bulk.

2 cups milk
1 cup butter
1 cup sugar
1 teaspoon salt
6 cups flour
3 eggs

Heat milk to scalding. Add butter, sugar, and salt. Cool to lukewarm and add to sponge. Add beaten eggs. Add flour gradually, stirring to stiff batter. Turn out on floured surface and knead lightly to very soft pliable dough.

Cover and let rise until double in bulk. Roll out on floured surface ½ inch thick. Cut into 4-inch rounds and place side by side in greased pan. When very light, make depression in center of each with tips of fingers and fill with cooked, sweetened prunes which have been seeded and drained. Bake in moderate oven (375° F.) 15 minutes.—T. J. C.

SALADS

Cottage Cheese Salad

4 cups unseasoned cheese
1 tablespoon minced onion
½ cup drained canned tomatoes, diced
1 cup cut canned green beans
½ cup thick or whipped cream
¼ cup mayonnaise
2 tablespoons green pepper or celery (may be omitted)
Salt and paprika to taste

All ingredients should be cold. Serve on crisp lettuce or shredded cabbage.

Grapefruit and Orange Salad

Peel 2 small grapefruits and separate into sections without a trace of white skin. Peel 2 large oranges and separate sections as directed above. The sections of fruit may be rolled in granulated or powdered sugar if desired. In individual beds of lettuce, arrange alternate sections of grapefruit and orange, to resemble either the petals of a flower, with a fresh strawberry and mayonnaise as an axis, or grouped as half an orange, pressing sections firmly together. Serve at once with suitable fruit salad dressing. Makes 4 or 5 servings.—Mrs. F. D., N. Y.

French Dressing

½ teaspoon salt
1 teaspoon sugar
¼ teaspoon powdered mustard
½ teaspoon paprika
3 tablespoons vinegar or lemon juice
½ cup salad oil

Blend dry ingredients, add vinegar or lemon juice, and mix. Place in bottle or jar and add salad oil. Adjust stopper or lid and shake vigorously until emulsion is formed. The dressing keeps indefinitely stored in a cool place. Shake vigorously when ready to serve on a salad. I make a pint of this dressing at a time.—C. R.

Chicken Salad

1 cup diced cold cooked chicken
1 cup diced celery
1 hard-cooked egg, diced
1 to 2 tablespoons chopped green pepper or pimiento
1 teaspoon finely chopped onion or chives
¼ cup sliced ripe or green olives
¼ cup broken nut meats
½ cup mayonnaise
Salt to taste

Chill all ingredients. Toss together quickly with mayonnaise and serve in attractive salad bowl. Substitute flaked salmon or tuna for a good fish salad. Serves 6 to 8.—Mrs. A. P., Ohio.

Cinnamon Apple Salad

Peel and core 6 choice cooking apples. Make thin sirup of 1 cup water, 1 cup sugar, and ½ cup red cinnamon candy. Add apples and simmer until very tender. Store apples in cool place. When ready to serve, chop 1 small banana and ½ apple. Add ¾ cup nut meats and moisten with sweet salad dressing. Serve apples on lettuce with banana filling in center. Top with jellied apple juice. Makes 6 servings.

Sunshine Salad

1 cup finely shredded cabbage
1 cup finely shredded or ground raw carrot
1 cup finely chopped unpeeled apple
1 teaspoon minced onion
1 teaspoon sugar
¼ teaspoon salt or celery salt
2 tablespoons lemon juice
3 tablespoons orange juice

All ingredients should be crispy cool. Mix lightly and serve at once. The salad is particularly tasty with roast pork or goose. Serves 4 to 6. —Miss L. S., Mich.

German Cabbage Salad

6 to 8 slices bacon, cubed
2 or 3 tablespoons lemon juice or vinegar
½ teaspoon salt
½ cup mayonnaise or cooked salad dressing
2 cups shredded cabbage
4 tablespoons chopped green pepper
2 tablespoons minced parsley (if desired)
1 tablespoon diced onion

Place cubed bacon in skillet and fry until crisp. Add lemon juice (or vinegar) and salt and stir. Add to mayonnaise or cooked salad dressing and stir at once into cabbage to which green pepper, parsley, and onion have been added. Serve warm. If desired, mixture may be returned to warm skillet and allowed to become more wilted. The salad is particularly tasty when served with hash browned potatoes or pork dinner. Serves 4 to 6.—Mrs. W. R., Iowa.

Potato Salad With Sour Cream Dressing

3 cups cold diced potatoes (cooked without paring)
2 hard-cooked eggs, diced
1 cup diced fresh cucumber or cucumber pickles
1 tablespoon minced onion

Mix above ingredients and add cream dressing:

2 tablespoons sugar
2 tablespoons flour
1 teaspoon mustard
½ teaspoon salt
⅛ teaspoon pepper
⅓ cup vinegar
½ cup very thick sour cream
¼ teaspoon celery seed

Mix sugar, flour, salt, pepper, and mustard. Add vinegar and sour cream and cook gently over low heat, stirring constantly until smooth and thick. Remove from stove and add celery seed. The dressing may be poured hot over salad mixture or cooled and added. Less potatoes may be used in salad and some flaked canned salmon added. This will serve from 6 to 8.—C. H. T., Missouri.

Cranberry Orange Salad

1½ cups cranberries
½ medium-sized orange
1 cup sugar
1 package lemon-flavored gelatine
1½ cups hot water

Wash and drain raw cranberries. Grind cranberries and orange (peeling and pulp) thru fine blade of a food chopper. Add sugar, mix, and let stand 1 to 2 hours. Add hot water to lemon gelatine and stir until dissolved. Add cranberry mixture and pour into square pan to mold. Chill until firm, cut into squares, and serve on lettuce with salad dressing. Some chopped nut meats or diced celery may be added to mixture if desired. This amount will serve from 8 to 10.—Mrs. R. M., Illinois.

Mixed Vegetable Salad

1 cup diced cooked potatoes
1 cup diced cooked carrots
1 cup diced cooked beets
¼ teaspoon allspice
1 cup boned, diced smoked salmon or herring
¼ cup vinegar
Salt and pepper to taste
¼ cup salad oil if desired

Mix above ingredients lightly. Serve warm or cold, with or without lettuce. This makes an easy supper dish, and we serve it with sliced tomatoes and hot rolls. Serves 6.—Mrs. E. H., Michigan.

Cucumber Cream Salad Dressing

1 cup thick sour cream
1 teaspoon salt
Pepper to taste
4 tablespoons vinegar
½ cup finely diced fresh cucumbers
1 tablespoon finely diced onion

The sour cream may be whipped or left plain. Add salt, pepper, vinegar, cucumber, and onion, and mix. Serve over lettuce, cabbage, tomatoes, or any combination crisp fresh vegetables. Halves of hard-cooked eggs may garnish salad. This will serve 6.—Mrs. O. N., Indiana.

DESSERTS

Graham-Cracker Pie

13 graham crackers, crushed (1¼ cups crumbs)
⅓ cup melted butter
⅓ cup sugar

Mix ingredients and press in deep pie pan, reserving ½ cup of the mixture.

Custard Filling

½ cup sugar
¼ cup flour
¼ teaspoon salt
2 cups scalded milk
3 beaten egg yolks
1 teaspoon vanilla

Blend sugar, flour, and salt in double boiler; add scalded milk and cook until thickened and smooth, stirring occasionally; add egg yolks gradually; and cook 2 minutes, stirring constantly. Remove from stove and add vanilla. Pour in crumb-lined pan and top with meringue made of 3 remaining egg whites, 5 tablespoons sugar, and ⅛ teaspoon vinegar. Sprinkle meringue with crumbs; bake in moderate oven (325 to 350°) 15 to 20 minutes. Cool and serve. The recipe will serve 6 to 8.—Mrs. H. L., Mich.

Molasses Layer Cake

When this cake appears on the table, there is joy in the household:
⅓ cup butter
1 cup sugar
1 egg, beaten
3 tablespoons molasses
¾ cup sour milk
1 teaspoon soda
2 cups flour
1 teaspoon baking powder
¼ teaspoon salt
1 teaspoon vanilla

Cream the butter, sugar, and egg thoroly. Add the molasses and mix well. Alternate the sour milk in which the soda has been dissolved with the flour which has been sifted with the baking powder and salt. Add the vanilla and beat until smooth. Place in two greased and floured layer cake pans. Bake in a moderate oven (350° F.) for 25 to 30 minutes. Cool the layers and put together with the following filling:

Peanut Brittle Filling

Force enough old-fashioned peanut brittle thru a food chopper to equal 1 cupful. Whip 1 cupful of heavy cream until stiff, fold in the peanut brittle, and place between the layers. It may be used to cover the top, also. Sometimes I use the filling between the layers, then ice the top and sides with a boiled icing or plain powdered sugar icing.—Mrs. W. G., Michigan.

Rhubarb Roll

"This is our favorite early summer dessert and guests like it, too."

Dice rosy rhubarb quite fine, to measure 3 cups. Reserve while preparing following biscuit dough:
2¼ cups flour
4 teaspoons baking powder
½ teaspoon salt
⅔ cup milk
⅓ cup cream

Sift flour, baking powder, and salt together. Mix milk and cream and add gradually to flour mixture stirring to stiff batter. Turn out on floured surface and knead lightly. Roll about ¼ inch thick and arrange cut rhubarb over it. Roll and cut in 1½-inch slices. Meanwhile make thin sirup of 1½ cups sugar and 1¼ cups water and pour in shallow baking pan. Arrange rhubarb rolls in sirup, side by side. Sprinkle with sugar and bake in a hot oven (425° F.) until nicely browned. Serve warm with cream. Cherries, berries, or apples may be used in this delicious fruit roll.—Mrs. L. A. J., Mo.

Lemon Cream Marlow
27 marshmallows
⅔ cup water
Juice of 1 large lemon
1 teaspoon grated lemon rind
1 cup heavy cream

Place marshmallows and water in upper part of double boiler; cover and cook until marshmallows are almost melted. Remove from stove, add lemon juice and grated rind, and cool. Whip cream to soft custard-like consistency and fold into marshmallow mixture. Place in tray of mechanical refrigerator and freeze firm, using coldest control. Serves 6 to 8.

A splendid mint cream may be made by adding small amount (about 1 teaspoon) spearmint extract and few drops green coloring. Omit grated lemon rind. Serve with Chocolate Fudge Sauce.

Devil's Food Pudding
2 squares of chocolate
½ cup milk
⅓ cup shortening
1 cup sugar
1 beaten egg
½ teaspoon vanilla extract
½ cup sweet or sour milk
1½ cups general-purpose flour
¾ teaspoon soda
½ teaspoon salt

Place chocolate and milk over low heat and cook to smooth sauce stirring constantly. Cream shortening and sugar; add beaten egg and vanilla and mix thoroly. Alternate milk with flour which has been sifted with soda and salt. Place in greased and floured shallow loaf pan measuring about 9x9 inches. Bake in moderate oven (350° F.). Serve warm with:

Butterscotch Sauce
1 cup brown sugar
3 tablespoons flour
1 cup boiling water
3 tablespoons thick cream
1 tablespoon butter
½ teaspoon vanilla extract
⅛ teaspoon salt
⅛ teaspoon nutmeg or cinnamon

Blend sugar and flour. Add boiling water, mix, and boil 5 minutes. Add cream, butter, vanilla, and salt and mix thoroly.—Mrs. I. B., Mont.

Burnt Sugar Cake
½ cup sugar
¼ cup boiling water

Place sugar in heavy pan and melt over low heat to deep amber but not black. Remove from stove and add boiling water. Place on stove again and boil until dissolved and sirup is formed. Set aside while preparing cake.
½ cup butter
1½ cups sugar
2 egg yolks
1 teaspoon vanilla extract
1½ tablespoons caramel sirup
1 cup milk or water
2½ cups cake flour
3 teaspoons baking powder
¼ teaspoon salt
2 egg whites

Cream butter and sugar. Add beaten egg yolks and vanilla and mix smooth. Add caramel sirup, then alternate milk with flour which has been sifted with baking powder and salt. Fold in stiffly beaten egg whites. Pour in two greased and floured layer cake pans. Bake in moderate oven of 375° F. 25 minutes or until done. Cool and frost with:

Caramel Frosting
1¾ cups sugar
4 tablespoons water
2 egg whites
1½ tablespoons caramel sirup
⅛ teaspoon salt
¼ teaspoon vanilla extract

Mix sugar, water, egg white, caramel sirup, and salt. Place over boiling water and beat with rotary beater for 7 to 8 minutes or until it holds shape. Remove from stove and add vanilla. Beat thick enough to spread. Spread between layers and over top. A few chopped nut meats or toasted coconut may be sprinkled over frosting.—L. L., Mich.

Stewed Prunes

Wash prunes, cover with water, and cook gently 1 hour. Allow 2 tablespoons sugar to each cup prunes, and add for last 6 minutes' cooking. When serving prunes, squeeze a little fresh lemon juice over them. The lemon adds delicious flavor to prunes.

Strawberry Mousse

1 cup strawberry jelly or jam
1 egg white
Dash of salt
4 tablespoons milk
¾ cup cream

Beat jelly until soft and smooth. Combine egg white, salt, milk, and cream and beat with rotary egg beater until stiff. Add jelly and mix well. Turn into mold. Cover with waxed paper, press cover tightly down over paper, and pack in equal parts ice and salt. Let stand 4 hours or longer before serving. Serves 6.

Steamed Spice Pudding

¼ cup butter
½ cup molasses
½ cup corn sirup
½ cup sour milk or buttermilk
2 cups flour
½ teaspoon soda
1½ teaspoons cinnamon
½ teaspoon cloves
¼ teaspoon nutmeg
⅛ teaspoon salt

Cream butter, molasses, and sirup. Alternate sour milk with flour which has been sifted with soda, spices, and salt. Mix smooth and pour in greased and floured mold. Steam 1 hour and serve hot with:

Lemon Butter Sauce

¾ cup sugar
1 tablespoon cornstarch
½ cup butter
2 tablespoons lemon juice
1 beaten egg
1 teaspoon vanilla extract

Blend sugar and cornstarch. Add butter and lemon juice and cook over low heat, stirring occasionally until thin sauce is formed. Add beaten egg and cook 1 minute, stirring constantly. Remove from stove, add vanilla, and serve. Serves 10 to 12.

Coffee Marshmallow Fluff

1 pound marshmallows
1 cup strong coffee
1 cup whipping cream
1 teaspoon vanilla extract
⅛ teaspoon salt

Pour boiling coffee over marshmallows; cover and let stand, or place over boiling water and stir until almost dissolved. Cool and beat until frothy. Fold in whipped cream, vanilla, and salt. Pour into wet mold and chill until firm. Or, if desired, mixture may be packed in ice and salt and frozen, or placed in tray of an automatic refrigerator until frozen. A few nut meats or cut dates may be folded into marshmallow cream. Serve dessert in sherbet glasses, on slices of cake, or place in individual baked pastry shells before it is chilled. Serves 6.—Mrs. C. O. R.

Sour Cream Cookies

1 cup shortening
1¾ cups sugar
2 eggs
2 teaspoons extract (vanilla or lemon or both)
1 cup thick sour cream
1 teaspoon soda
4½ cups flour
2 teaspoons baking powder
¼ teaspoon salt

Cream shortening and sugar, add eggs and extract, and beat until smooth. Add cream in which soda has been dissolved, mix, then add flour sifted with the baking powder and salt. Stir until a stiff drop batter is formed. Drop by spoonfuls onto greased cooky sheet or drop by spoonfuls into pan of flour; turn bits of dough over, and with hands shape into rounds. Press onto cooky sheet and sprinkle generously with sugar or press currants, raisins, or nut meats into each cooky. Bake in a moderate oven (400° F.) for 10 to 12 minutes. The dough may also be rolled and cut, or more flour (about 1 cup) added to it and molded into refrigerator roll for slicing. This makes approximately 6 dozen cookies.—Mrs. C. E. A., Iowa.

Maple Rice Pudding

2½ cups boiled rice (drained)
2½ cups milk
3 eggs (beaten)
1 cup maple sirup
½ teaspoon salt
½ teaspoon nutmeg
1 cup raisins

Mix all ingredients thoroly. Place in buttered baking dish and bake at 325° F. 35 minutes or until custard is firm. Stir twice during the first 20 minutes. Serve either hot or cold with cream. This will serve 8.

Old-Fashioned Lace Cookies

1 cup all-purpose flour
1 teaspoon cinnamon
Dash nutmeg
¼ teaspoon salt
½ teaspoon soda
¾ teaspoon baking powder
½ cup butter
½ cup sugar
½ cup sorghum or other light-colored molasses
1 teaspoon lemon extract

Sift flour, measure, and resift 3 times with spices, salt, soda, and baking powder. Melt butter, sugar, and molasses over boiling water and remove from heat. Add dry ingredients and lemon extract and beat until smooth; let stand over hot water for a few minutes. Drop by half-teaspoonfuls onto buttered cooky sheet, 3 inches apart. Bake in a moderate, slow oven (325° F.) 12 to 15 minutes. Cool.

Old-Fashioned Jelly Roll

¾ cup cake flour
¾ teaspoon baking powder
¼ teaspoon salt
4 eggs
¾ cup sifted sugar
1 teaspoon vanilla extract
1 cup red currant jelly

Sift flour once and measure. Combine baking powder, salt, and eggs in bowl. Place over smaller bowl of hot water and beat with rotary egg beater, adding sugar gradually until mixture becomes thick and light-colored. Remove bowl from over hot water. Fold in flour and vanilla. Turn into pan, 15x10 inches and lined with greased paper. Bake in a hot oven (400° F.) 13 minutes. Quickly cut off crisp edges of cake. Turn from pan at once onto cloth sprinkled with confectioners' sugar and remove paper. Spread with jelly and roll. Wrap in cloth and cool on rack. Serves 12.

Light Fruit Cake

½ cup shortening
1 cup brown sugar
1 beaten egg
1 cup seedless raisins
1 cup prunes, stoned and cut
1 cup dried figs, cut
½ cup walnut kernels
½ orange rind cut in very thin strips
1¾ cups flour
3 teaspoons baking powder
½ teaspoon cinnamon
¼ teaspoon nutmeg
¼ teaspoon cloves
1 teaspoon vanilla extract
½ cup milk

Cream shortening and sugar. Add beaten egg, raisins, figs, prunes, nuts, and orange strips and mix. Add sifted dry ingredients and vanilla and beat well. Bake in greased and paper-lined loaf pan 2 hours in a slow oven (275° to 300° F.). Cool in pan and serve plain.

Cherry-Pudding Cake

Stem and seed 1 quart cherries and place in 9-inch pudding pan. Add 1 cup sugar, 3 tablespoons quick-cooking tapioca, and 2 tablespoons butter, and cook gently 5 minutes. Pour over a batter made as follows:

Beat 2 eggs very lightly, add ⅞ cup sugar gradually and beat; add 1 teaspoon vanilla. Add ½ cup scalded milk (in which 2 tablespoons butter have been melted) alternately with 1 cup flour sifted with 2 teaspoons baking powder and ¼ teaspoon salt. Mix smooth. Pour over cherries and bake in moderate oven (350° F.) 30 minutes. Serve warm with cream. Serves 8.—F. F., Mo.

Red Devil's Food

½ cup butter
2 cups sugar
2 eggs
⅔ cup cocoa mixed with ½ cup boiling water
1 cup sour milk (I take half cream)
2½ cups cake flour
1 teaspoon soda
1 teaspoon vanilla extract
¼ teaspoon salt

Cream butter, sugar, and beaten eggs very smooth. Mix cocoa and boiling water to paste and add. Alternate sour milk with flour which has been sifted with soda and salt, mixing thoroly after each addition. Add vanilla and stir well. Bake in greased and floured loaf or layer cake pan in moderate oven (350° F.). Cool and frost as desired.

Filled Oatmeal Cookies

1 pound of seeded raisins or dates
1 cup water
1 cup sugar

Seed and cut dates into pieces. If raisins are used, they are left whole. Add water and sugar and cook slowly, stirring from time to time until thick, and pasty. Cool, while preparing following cooky dough:

1 cup butter
1 cup brown sugar
½ cup sour milk or buttermilk
1 teaspoon soda
1½ cups flour
1 teaspoon baking powder
½ teaspoon salt
3 cups quick-cooking oatmeal

Cream butter and sugar. Add sour milk, then flour sifted with soda, baking powder, and salt and mix to smooth batter. Add oatmeal and mix thoroly. Turn onto floured surface and if too moist work in additional flour. Roll thin and cut into rounds. Place rounds, one inch apart, on cooky sheet. Drop rounding teaspoonful of fruit paste on each cooky. Press another cooky over paste and bake in hot oven of 400° F. about 12 minutes or until lightly browned. —M. T., Kans.

Chocolate Frosting

This is an easy but especially good icing, and we suggest that you try it with Devil's Food Cake.

2 cups confectioners' sugar
2 tablespoons butter
½ cup milk
3 egg yolks
4 squares chocolate, melted
½ teaspoon vanilla extract

Cream sugar and butter, add milk, egg yolks, chocolate, and flavoring and beat with rotary beater until frosting stands in peaks. If it does not thicken sufficiently add small amount confectioners' sugar. In extremely hot weather bowl should be placed in cold or iced water while frosting is beaten.—Mrs. W. E. J., Minn.

Jiffy Cake

¼ cup melted butter
1 egg
Milk
1½ cups cake flour
1 cup sugar
2 teaspoons baking powder
¼ teaspoon salt
1 teaspoon vanilla extract

Place melted butter in 1 cup measure; add eggs and fill cup with milk. Place in mixing bowl. Sift flour, sugar, baking powder, salt, and flavoring into liquid ingredients and beat well. Turn into greased and floured shallow loaf pan, or into 2 layer cake pans. Bake in moderate oven (375° F.) about 20 minutes. Frost with:

Double Boiler Frosting

1 egg white
1 cup sugar
3 tablespoons water
Few drops of vanilla extract

Place egg white, sugar, and water in top of double boiler over boiling water. Beat constantly with egg beater 7 minutes. Then remove from water, add flavoring, and continue beating to proper consistency to spread on cake.

Deep-Dish Apple Pie

6 cooking apples
1 cup brown sugar
½ teaspoon allspice
Dash of salt
3 tablespoons butter
Pastry for one-crust pie

Pare, core, and slice apples thin. Arrange in deep baking dish. Mix sugar, spice, and salt and sprinkle over apples. Dot with butter. Roll pastry ¼ inch thick and place over apples, pressing down well on edges. Make slits in center to allow steam to escape. Brush pastry with beaten egg diluted with water to give attractive glaze. Bake in hot oven (450° F.) 20 minutes, then reduce oven to 350° F. and bake 30–40 minutes.

Vanilla Ice Cream

2 rennet tablets
2 teaspoons cold water
2½ cups milk
¾ to 1 cup sugar
¼ teaspoon salt
2 teaspoons vanilla extract
1½ cups heavy cream

Crush and dissolve rennet tablets in cold water. Combine milk, sugar, salt, and cream; and heat to lukewarm (about 110° F.), stirring until sugar is dissolved. Remove from stove, stir in dissolved tablets, and pour at once into can of ice-cream freezer. Let stand at room temperature until firm or about 10 minutes. Cool, pack in ice and salt, and freeze (using 8 parts ice to 1 part salt). When firm, remove paddle, repack in ice and salt, and let stand 3 hours if possible.

Above ice cream lends itself admirably to following variations:

Those liking eggs in ice cream may add 2 beaten eggs to milk mixture before it is heated to lukewarm.

Chocolate Ice Cream is made by blending 2 squares melted chocolate and ½ cup hot milk to smooth sauce. Add additional ¼ cup sugar, mix, and stir into lukewarm milk before rennet tablets are added in recipe for Vanilla Ice Cream.

Chocolate Chip Ice Cream is made by adding 2 cups finely crushed Chocolate Chip candy to Vanilla Ice Cream. Omit sugar.

Peanut Brittle Ice Cream is made by adding 2 cups finely crushed peanut brittle to Vanilla Ice Cream. Omit sugar.

Peppermint Ice Cream is made by adding 2 cups finely crushed peppermint stick candy to Vanilla Ice Cream. Omit sugar.

Grape-Nut Ice Cream is made by adding ⅔ to 1 cup Grape-Nuts to Vanilla Ice Cream.

Banana Whipped Cream Pie

1 package orange-flavored gelatine
1½ cups boiling water
¼ cup sugar
1 cup whipping cream
4 medium-size fully ripe bananas
1 large baked pie shell

Dissolve gelatine in boiling water. Add sugar and stir until dissolved. Cool until slightly thickened, then fold in cream, whipped stiff. Slice 2 bananas in bottom of pie shell, spread over them one-half gelatine mixture, then slice remaining 2 bananas over this and finish with another layer of gelatine cream. Set in cold place until firm. Tiny cubes of red jelly dotted over top make a pretty garnish.—B. T.

Lemon Chiffon Pie

4 egg yolks
⅛ teaspoon salt
1 cup sugar
4 egg whites
¼ cup lemon juice (1 lemon)
1 teaspoon grated lemon rind

Beat egg yolks thoroly. Add salt, half of sugar, and lemon juice and rind. Cook in top of double boiler until slightly thickened, stirring occasionally, then cool. Beat egg whites until they hold a point, fold in remaining ½ cup sugar and cooled egg yolk mixture. Pour into baked pie shell and place in a slow oven (325° F.) until very lightly browned. Serve cold with whipped cream.—E.P.

CONSERVES, JAMS AND JELLIES

Currant Jelly

4½ cups (2¼ lbs.) currant juice
7 cups (3 lbs.) sugar
2 tablespoons strained lemon juice
½ bottle fruit pectin

To prepare juice, crush thoroly about 2½ quarts (3½ pounds) fully ripe currants. Add ½ cup water, and bring just to boil. Place fruit in jelly cloth or bag and squeeze out juice.

Measure sugar, currant juice, and lemon juice into large saucepan, mix well, and bring to boil. Add fruit pectin at once stirring constantly. Bring to full, rolling boil again and boil hard ½ minute. Remove from stove, skim, and pour quickly. Cover with paraffin immediately.

Chokecherry and Crabapple Jelly

This reader says that a mixture of chokecherries and crabapples makes a delicately flavored jelly which is a favorite in their home.

Wash and stem chokecherries and put on to cook with just enough water to keep them from sticking. When hot, mash, but do not break pits, and continue mashing until cooked quite soft. Pour into jelly bag to drip. Meanwhile wash and cut crabapples into pieces; add water until it is visible thru apples, and boil gently until quite soft. Pour into jelly bag to drip. Combine 1 part chokecherry juice with 3 parts crabapple juice and boil 20 minutes. Add equal amount sugar which has been warming in oven, and stir until dissolved. Boil 15 to 20 minutes or until it reaches jelly consistency. Pour into hot sterilized glasses. Cover with melted paraffin immediately.—Mrs. M. E. E., Nebraska.

Grape Jelly From Grape Juice

2 cups grape juice
3 cups sugar
½ cup commercial pectin

Grape juice must be full of rich grape flavor and sweetened just right for drinking. Add sugar and mix. Heat to full boil; add pectin stirring all the time, and bring to a full boil again. Boil for ½ minute. Remove from stove, let stand 1 minute, then pour into hot sterilized glasses. Seal at once with hot paraffin. Makes 5 glasses.—Mrs. F. R. H., Illinois.

Cider Spiced Prunes

2 cups uncooked prunes
2 cups apple cider
⅓ cup brown sugar
1 cup water
4 3-inch sticks cinnamon
1 teaspoon whole cloves

Wash prunes, combine with cider, water, sugar, and spices, and boil (covered) 20 minutes. Remove from stove and let stand covered overnight. Boil 40 minutes. Serve hot or cold with meats. Makes about 1½ pints.—L. B. W.

Rhubarb Conserve

10 cups diced rhubarb
8 cups sugar
3 oranges
1 lemon
½ cup nuts cut fine

Place the rhubarb in a preserving kettle with the sugar on top. Add the juice from the oranges and lemons, which has been strained. Cover the remaining orange and lemon peel with cold water, let come to a boil, rinse in cold water and repeat twice more. This method removes all trace of bitterness. Chop or dice the peel and add to the rhubarb mixture. Cook slowly, stirring occasionally until sufficiently thickened. A few minutes before removing from the fire, add the nut meats. Seal while hot. Makes from 6 to 7 pints.

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